

PROJECT MANUAL

WOODFORD COUNTY PUBLIC SCHOOLS

SOUTHSIDE ES CAFETERIA / KITCHEN ADDITION

KDE Project: 18-329

Owner

Woodford County Board of Education
330 Pisgah Pike
Versailles, Kentucky 40383
T: (859)-879-4600
F: (859) 873-1614

Architect

Tate • Hill • Jacobs: Architects, Inc.
346 East Main Street
Lexington, Kentucky 40507
T: (859) 252-5994 F: (859) 253-1607

Landscape Architect

John L Carman & Associates
310 Old Vine Street
Lexington, Kentucky 40507
T: (859) 254-9803 F: (859) 255-8625

Structural Engineer

Poage & Associates
446 East High Street
Lexington, Kentucky 40507
T: (859) 255-9034 F: (859) 252-3130

Mechanical / Electrical Engineers

CMTA Consulting Engineers
2429 Members Way
Lexington, Kentucky 40504
T: (859) 253-0892 F: (859) 231-8357

Date: July 20, 2018

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INVITATION TO BID

The Woodford County Board of Education will receive sealed bids at the Superintendent's office at 330 Pisgah Pike until **2:00 PM.** local time on **Tuesday, September 18, 2018** for the Southside Elementary School Cafeteria / Kitchen Addition located at 1300 Troy Pike, Versailles, KY. Specifications and Bid Documents may be obtained by contacting Lynn Imaging 328 East Vine Street Lexington, KY. 859-255-1021. A Pre-Bid Meeting will be held at 3:30 p.m. on Tuesday, August 21st at Southside Elementary School. Inquiries related to the project may be made by contacting Margaret Jacobs of Tate Hill Jacobs Architects at (859) 252-5994. Form of Proposal, Form of Contract, Plans and Specifications, and Forms of Bid Bond, Performance and Payment Bond and other contract documents may be examined at the following:

McGraw Hill Construction	3315 Central Avenue	Hot Springs AR	800.393.6343
Builders Exchange of KY	1035 Strader Drive	Lexington, KY	859.288.0011
Builders Exchange	2300 Meadow Drive	Louisville, KY	502.459.9800
Allied Construction Industries	3 Kovach Drive	Cincinnati, OH	513.221.8020
Reed Construction Data	30 Technology Parkway Suite 100	Norcross GA	800.424.3996
Tate Hill Jacobs: Architects	346 East Main Street	Lexington, KY	859.252.5994
Poage Engineers & Associates	446 East High Street	Lexington, KY	859.255.9034
CMTA Engineers	2429 Members Way	Lexington, KY	859.253-0892

Immediately following the scheduled closing time for receiving the bids, all proposals that have been completely filled out and have been properly submitted with the appropriate attachments in accordance with the Contract Documents will be publicly opened and read.

Plans and Specifications may be purchased from Lynn Imaging, 328 Old Vine Street Lexington, KY for a non-refundable amount of \$120.00 per set. No partial sets will be issued. Documents may be obtained from the distribution department of Lynn Imaging, 859.255.1021 or on their website, <www.lynnimaging.com.> If documents are to be mailed, an additional non-refundable charge will apply; contact Lynn Imaging for the cost. **The successful bidder is responsible for all additional sets they may require.**

Bids must be accompanied by a certified check or bid bond, payable to the Owner in an amount of not less than 5% of the bid. The award of the contract shall be made on the basis of the lowest and best bid in the interest of Woodford County Public Schools. No bidder may withdraw his/her bid for a period of thirty (30) days after the date set for the bid opening. An 100% Performance and Payment Bond shall be provided by the successful Bidder at the time of Contracting. The Owner reserves the right to waive informalities and irregularities, and shall have the right to reject any and all bids.

END OF DOCUMENT

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

Instructions to Bidders



This version of AIA Document A701[™]–1997 is modified by the Kentucky Department of Education. Publication of this version of AIA Document A701–1997 does not imply the American Institute of Architects’ endorsement of any modification by the Kentucky Department of Education. A comparative version of AIA Document A701–1997 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 A701[™]– 1997, Instructions to Bidders — KDE Version,” or “AIA Document A701[™]–1997 — KDE Version.”

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

Instructions to Bidders

for the following PROJECT:

(Name and location or address)

SOUTHSIDE ES CAFETERIA/KITCHEN ADDITION
1300 TROY PIKE

THE OWNER:

(Name, legal status and address)

WOODFORD CO. BOARD OF EDUCATION
330 PISGAH PIKE
VERSAILLES, KY 40383

THE ARCHITECT:

(Name, legal status and address)

TATE HILL JACOBS ARCHITECTS, INC
346 EAST MAIN STREET
LEXINGTON, KY 40507

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

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)

§ 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.

§ 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.

§ 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 stationery 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.

§ 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.

§ 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.

§ 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.

§ 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.

SECTION 003050
SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

1.1 SCOPE

- A. The following instructions modify, change, delete from or add to AIA Document A701-Instructions to Bidders as amended by the Kentucky Department of Education, Division of Facilities Management. Where any article of the Instructions to Bidders is modified or any paragraph, subparagraph or clause thereof is modified or deleted by these Supplementary Instructions to Bidders, the unaltered provisions of that Article, paragraph, subparagraph or clause shall remain in effect.

1.2 ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

- A. Revise the last sentence of paragraph 7.2.2 to read:
Unless otherwise provided, both bonds shall be written in the amount of the sum of the contract amount plus the total amount of all purchase orders.

1.3 ARTICLE 9 PUBLIC WORKS ACT

- A. Delete this Article in its' entirety. Work of this contract is not subject to compliance with Kentucky Prevailing Wage Act on Public Works Projects.

1.4 ARTICLE 10 TAXES

- A. Add the following paragraphs:
 - 10.3 It is the Owner's intent to purchase significant quantities of materials through direct Purchase Orders. As provided by KRS 139.310 and Kentucky Administrative Regulation 103 KAR 26:070 (Contract Construction), sales and use tax is to be excluded only on those material items purchased by the Owner directly from material suppliers.
 - 10.4 If a company is listed on the bid forms as both the installing Contractor and material supplier, the Owner will not issue a Purchase Order for those materials. Accordingly, the sales and use tax on the materials used to fulfill the terms of the contract will be the liability of the Contractor.

1.5 ARTICLE 6 POST BID INFORMATION

- A. Add the following paragraphs:
 - 6.6.4 The Contractor will be provided prepared Purchase Orders. Upon receipt, the Contractor shall have fourteen (14) business days to have each Purchase Order executed by the respective material suppliers and returned to the Architect. Purchase Orders are not to be altered, amended, or changed in any way. Any Purchase Order not returned within the allotted time shall become null and void and the value of the Purchase Order will be added to the Contract sum with the Contractor assuming responsibility for all taxes. Upon execution of the Purchase Orders by the Owner, the Purchase Orders will be delivered to the Contractor for distribution to the respective suppliers.
 - 6.6.5 In the event the quantities of materials supplied via Purchase Orders are insufficient to complete the Work, the Contractor shall, at no expense to the Owner, provide such materials as necessary to complete the Work

- 6.6.6 In the event that at the completion of the Work the Contractor has not submitted invoices totaling the value of any individual Purchase Order, that Purchase Order shall be considered complete and closed. NO ADJUSTMENT WILL BE MADE TO THE CONTRACTORS' CONTRACT.
- 6.6.7 The Owner will provide to the Contractor Kentucky Sales Tax Exemption Certificates for each Material Supplier.

END OF SECTION

SECTION 003100 - AVAILABLE PROJECT INFORMATION

1.1 SUMMARY

- A. Document Includes:
 - 1. Topographic survey.
 - 2. Geotechnical Report.
- B. Available Project information has been furnished by Owner to Architect/Engineer for use in designing this Project.
 - 1. Each Bidder shall be fully familiar with available Project information, which has been prepared for Owner by separate consultants.
 - 2. Available Project information is offered solely for reference and shall not be considered part of Contract Documents. Data contained in Documents prepared by Owner's separate consultants is believed to be reliable; however, Owner and Architect/Engineer do not guarantee their accuracy or completeness.
 - 3. In preparing their Bids, Bidders shall consider and evaluate data contained in available Project information as well as Contract Documents prepared by Architect/Engineer.
- C. Related Documents:
 - 1. Document Instructions to Bidders – AIA A701 – 1997: Site examination.

1.2 TOPOGRAPHIC SURVEY

- A. A copy of a topographic survey is included in the set of Contract Drawings and is titled R1 Site Survey.
- B. This survey identifies grade elevations prepared primarily for use of Architect/Engineer in establishing new grades and identifying natural watershed.
- C. This survey identifies approximately location of known underground utilities. The Contractor is responsible for establishing the location and extent of underground utilities in the work area by contacting utility companies that may provide service to the project site. Should the survey or contract documents exclude the location of existing utilities, the Contractor shall not be relieved of determining their locations.

1.3 SUBSURFACE INVESTIGATION REPORT

- A. A copy of a Geotechnical Report is included with this document. The report is dated June 25, 2018 and was prepared by S&ME, Inc. An addendum dated July 9, 2018 is also included.
- B. The report identifies properties of below-grade conditions and offers recommendations for design of foundations, prepared primarily for use of Architect/Engineer.
- C. Recommendations described are not requirements of the Contract unless specifically referenced in Contract Documents.
- D. The report, by its nature, cannot reveal all conditions existing on the Site. Should subsurface conditions be found to vary substantially from this report, changes in design and construction of foundations will be made, with resulting changes to Contract Price and/or Contract Time.

END OF DOCUMENT



July 9, 2018

Woodford County Board of Education
c/o Tate Hill Jacobs Architects
346 East Main Street
Lexington, Kentucky 40507

Attention: Ms. Margaret Jacobs

Reference: **Addendum to Report of Geotechnical Exploration
Cafeteria and Kitchen Additions to Southside Elementary School**
Versailles, Kentucky
S&ME Project No. 1183-18-030

Dear Ms. Jacobs:

S&ME, Inc. (S&ME) completed the geotechnical exploration for the proposed cafeteria and kitchen addition to the existing Southside Elementary School and issued our report dated June 25, 2018. On July 9, 2018, Mr. Chris Kelley, PE with Poage Engineers and Associates requested additional recommendations for the option of bearing the proposed foundations on bedrock.

The depth to Auger Refusal, which we interpret as bedrock, in our borings and soundings ranged from about 0.5 feet to 9.8 feet below the existing school finished floor elevation. As an alternative to over-excavating bedrock within a portion of the foundation excavations as noted in our report, the soil within foundation excavations can be over-excavated to expose bedrock throughout the addition. The foundation bearing elevation can be re-established with lean concrete or flowable fill to the plan bearing elevation. If bedrock supported foundations are used, we recommend an allowable bedrock bearing pressure of 5,000 psf.

The current seismic design procedures outlined in the NEHRP (National Earthquake Hazard Reduction Program) guidelines mandate structural design loads to be based on coefficients of the site. A seismic site classification of "B" can be used for the site if bedrock supported foundations are constructed.

S&ME appreciates the opportunity to be of service to you on this project. We look forward to helping you through project completion. If you have any questions, please call.

Sincerely,
S&ME, Inc.

Andrew M. Fiehler, P.E.
Project Engineer

Craig S. Lee, P.E.
Senior Engineer/ Vice President



Report of Geotechnical Exploration
Addition to Southside Elementary School
Versailles, Kentucky
S&ME Project No. 1183-18-030

PREPARED FOR:

**Woodford County Board of Education
330 Pisgah Pike
Versailles, Kentucky 40383**

PREPARED BY:

**S&ME, Inc.
2020 Liberty Road, Suite 105
Lexington, Kentucky 40505**

June 25, 2018



June 25, 2018

Woodford County Board of Education
c/o Tate Hill Jacobs Architects
346 East Main Street
Lexington, Kentucky 40507

Attention: Ms. Margaret Jacobs

Reference: **Report of Geotechnical Exploration**
Cafeteria and Kitchen Additions to Southside Elementary School
Versailles, Kentucky
S&ME Project No. 1183-18-030

Dear Ms. Jacobs:

S&ME, Inc. (S&ME) has completed the geotechnical exploration for the proposed cafeteria and kitchen addition to the existing Southside Elementary School at 1300 Troy Pike in Versailles, Kentucky. The purpose of this exploration was to obtain subsurface data at the site pursuant to construction of the addition. We conducted this project in general accordance with S&ME Proposal No. 11-1800135, dated May 11, 2018, which was authorized by Mr. Scott Hawkins on May 22, 2018. This report explains our understanding of the project, documents our findings, and presents our conclusion and engineering recommendations.

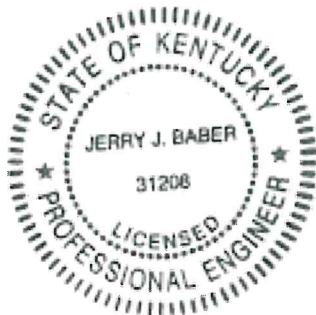
S&ME appreciates the opportunity to be of service to you on this project. We look forward to helping you through project completion. If you have any questions, please call.

Sincerely,

S&ME, Inc.

A handwritten signature in cursive script that reads "Jerry Baber".

Jerry Baber, P.E.
Project Engineer



A handwritten signature in cursive script that reads "Craig S. Lee".

Craig S. Lee, P.E.
Senior Engineer/ Vice President



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Appendices

Appendix I – Site Location Plan/Boring Location Plan

Appendix II – Test Boring Records

Appendix III – Laboratory Testing Results

Appendix IV – ACI Floor Design Guide



1.0 INTRODUCTION

S&ME has completed the geotechnical exploration for the proposed cafeteria and kitchen addition for Southside Elementary School located at 1300 Troy Pike in Versailles, Kentucky. The purpose of this exploration was to obtain subsurface data at the site pursuant to construction of the addition. We conducted this project in general accordance with S&ME Proposal No. 11-1800135, dated May 11, 2018, which was authorized by Mr. Scott Hawkins on May 22, 2018. This report explains our understanding of the project, documents our findings, and presents our conclusion and engineering recommendations.

2.0 PROJECT INFORMATION

The new addition will be located northeast of the existing Southside Elementary School in Versailles, Kentucky. A grass lawn with sidewalks from the building currently occupy the proposed area along with a few trees and two storage buildings, which are located on the north and east side of the site. The planned addition will be adjacent to the existing school extending from the northeast cafeteria entrance to the northeast corner on the existing building.

It is our understanding the proposed single story structure will have a footprint of approximately 3,635 square feet, which will include a dry food storage area with additional cafeteria and kitchen space along with an outdoor covered patio. We were not provided with the planned construction type, but we assume the addition will be constructed with load bearing CMU walls with foundation conditions matching that of the existing school.

3.0 SITE GEOLOGY

A review of the USGS Geologic Map of the Versailles Quadrangle (1964) indicates the site is underlain by the middle Ordovician deposits of the Cynthiana Formation, which includes the granular phosphatic limestone member and the devils hollow member.

The Cynthiana Formation typically consists of limestone. The limestone can vary from gray to yellowish brown, and medium to coarse grained containing phosphate. Weathering surfaces of the limestone can be rough and irregular. Fossils in this limestone are general abundant especially with bryozoans and large brachiopods. The devils hollow member is unique in that silicified coquina, which is a soft limestone of broken shells, commonly occurs as float material within the member.

Cynthiana Limestone is prone to differential weathering and solutioning, including sinkhole formation. The result is an erratic top of rock profile with open fractures, cavities, channels and soil filled, solution enlarged joints in the bedrock. Subsurface flow of water is partly controlled by solution widened joints and fractures and along bedding planes. Alignments of solution enlarged fractures, sinkholes, caverns and depressions commonly indicate fracture zones followed by subsurface water courses. No open sinkholes or other surface indications of Karst development were observed during our site visit. Also, we did not observe other indications during our exploration such as softened zones of soil above bedrock. As such, it is our opinion that the potential for Karst development at the site is relatively low.



4.0 EXPLORATION METHODS

The procedures used by S&ME for field and laboratory sampling and testing are in general accordance with ASTM procedures and established engineering practice. Appendix II contains brief descriptions of the procedures used in this exploration.

4.1 Field Exploration

S&ME drilled a total of five (5) soil test borings in addition to five (5) soundings for this project. We numbered the soil test borings performed in the addition footprint as B-1 through B-5, and the soundings were labeled as S-1 through S-5. Jerry Baber, P.E., from our office was on site during drilling to observe pertinent site features and surface features indicative of the site geology and to direct the drilling operations. The locations of the borings for the addition were selected by S&ME based upon the RFP and adjusted to avoid underground utilities. Some soundings and soil test boring locations were also adjusted as needed by the engineer in the field to locate shallower rock depths within the addition's footprint. Each boring location is shown on the boring Location Plan (Figure 2) in Appendix I.

The borings were advanced by a track-mounted, D-50 drill rig using 2¼-inch I.D. hollow stem augers. We obtained soil samples using a split-barrel sampler driven by an automatic hammer system in general accordance with ASTM D1586. Two (2) relatively undisturbed (Shelby) tube samples were obtained from Borings B-1 and B-5. The stratification lines shown on the boring records represent the approximate boundaries between soil and bedrock. The transitions may be more gradual than shown.

At the completion of drilling, the depths to groundwater, if any, were measured, and the borings were backfilled with the auger cuttings prior to S&ME leaving the site.

4.2 Laboratory Testing

The recovered soil samples were sealed in sample bags and returned to our laboratory. The soil samples were visually classified by the geologist according to the Unified Soil Classification System (ASTM D2487). Moisture content determinations and Atterberg limits tests of representative on-site samples were performed. S&ME also performed unconfined compressive strength tests on soil samples obtained from the relatively undisturbed (Shelby) tubes. See Table 4-1 below for the Unconfined Compressive Strength results performed on the relatively undisturbed Shelby tube samples from Borings B-1 and B-5. The laboratory test data results are included in Appendix III.

Table 4-1 – Summary of Unconfined Compressive Strength (UCS) Data

Boring	Depth (ft)	Material	UCS (KSF)
B-1	2.0-4.0	CL	2.40
B-5	2.0-4.0	CH	2.08



5.0 SUBSURFACE CONDITIONS

5.1 General Soil Profile

The following is a general description of the materials encountered in our borings. Each individual boring log can be found in Appendix II. Please note the finish floor elevation (F.F.E) of the existing cafeteria was assumed to be 500 feet. The actual elevation was unknown to S&ME at the time of this report.

From the surface our borings encountered topsoil to depths ranging from three (3) to six (6) inches. The topsoil was overlain by stiff to very stiff brown lean clay (CL) to depths ranging from 0.2 to 4.0 feet below the ground surface. Please note that in boring B-4 lean clay (CL) was not observed. Beneath the lean clay in our borings we encountered orange brown to yellow fat clay (CH) that extended to the top of weathered limestone or auger refusal. Where encountered the weathered limestone ranged from 0.1 feet to 0.3 feet. Sample Borings B-3 through B-5 did not encounter a weathered layer before encountering auger refusal. Soundings S-2, S-3, and S-5 did not encounter a weathered layer before encountering auger refusal. Refer to Table 5-1 for a summary of bedrock information. For more detailed descriptions, please refer to our Test Boring Records in Appendix II and laboratory results in Appendix III.

Table 5-1 – Summary of Bedrock Information

Boring/Sounding Number	Topsoil Thickness (in)	Ground Surface Elevation*	Depth to Weathered Bedrock (ft.)	Elevation of Weathered Bedrock*	Depth to Bedrock (ft.)	Elevation of Bedrock**
B-1	5	499.0	6.5	492.5	6.8	492.2
B-2	6	498.1	3.6	494.5	3.7	494.4
B-3	3	498.3	-	-	1.2	497.1
B-4	3	498.7	-	-	1.2	497.5
B-5	4	499.0	-	-	4.4	494.6
S-1	NA	498.2	2.1	496.1	3.0	495.2
S-2	NA	498.5	-	-	9.8	488.7
S-3	NA	498.3	-	-	0.5	497.8
S-4	NA	497.9	3.5	494.4	3.7	494.2
S-5	NA	498.9	-	498.9	2.1	496.8

*Ground surface elevations were surveyed by using differential leveling.

** F.F.E of existing cafeteria building was assumed to be 500 ft. since actual F.F.E or any control point elevation was not known to S&ME at the time of this report

Natural moisture contents in the lean clay (CL) ranged from 17 to 19 percent while the natural moisture contents in the fat clay (CH) ranged from 23 to 36 percent. Atterberg limit tests of the clay indicate liquid limits ranging from 41 to 83 percent with plasticity indices ranging from 20 to 50 percent. The results of the Atterberg limits testing is summarized in Table 5-2.



Table 5-2 – Summary of Atterberg Limits Testing

Boring No.	Depth (ft.)	Plastic Limit (%)	Liquid Limit (%)	Plasticity Index (%)
B-1	2.0-4.0	21	41	20
B-2	2.0-3.5	25	69	44
B-5	2.0-4.0	33	83	50

5.2 Groundwater

The borings were dry upon completion of augering and before. Groundwater is commonly encountered at the soil/rock interface as well as in isolated pockets within uncontrolled fill. The depth of the water and duration of flow is directly dependent on recent rainfall activities and site specific drainage characteristics. The borings were backfilled before we left the site due to safety concerns. As such, 24-hour water levels were not measured.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 General Discussion

During our subsurface exploration we observed shallow bedrock depths on the Northwest side of the addition which will include the proposed dry food storage area, the north end of the kitchen addition, and the northeast end of the cafeteria addition. We suspect soil has been cut from this area during construction of the existing school based upon the observed grade changes throughout the north side of the property.

Our laboratory testing indicates a highly plastic fat clay (CH) with a plastic index (PI) of greater than thirty (30) percent exists in the majority of the addition footprint. Clays with PI greater than 30 are susceptible to volume changes with fluctuating moisture contents. Clays with a PI greater than thirty (30) have proven to be problematic in Central Kentucky causing heaved floor slabs when it rains and settled slabs in dry conditions. To manage the risk of floor slab distress associated with swelling clay we recommend that fat clays with a PI greater than thirty (30) percent be excluded in the top three (3) feet of the floor slab sub grade. The South end of the proposed addition encountered lean clay down to a depth of approximately four (4) feet and we do not anticipate any undercutting in this area.

6.2 Site Preparation

We recommend undercutting the middle section of the addition footprint to an elevation such that high plasticity clay is at least three (3) feet from the floor slab subgrade, and replacing the material with structural fill. We anticipate an undercut elevation of approximately 496 feet for this area, which is based upon our assumed elevation of the existing cafeteria finished floor. Refer to figure 6-1 for an illustration of the approximated undercut area.

We also recommend undercutting the northwest side of the proposed addition, which is the upper area in figure 6-1, to remove high plasticity clay and to excavate bedrock to an elevation which allows a minimum of eighteen (18) inches of structural fill to be placed above the bedrock. The footing should bear on a minimum of eighteen

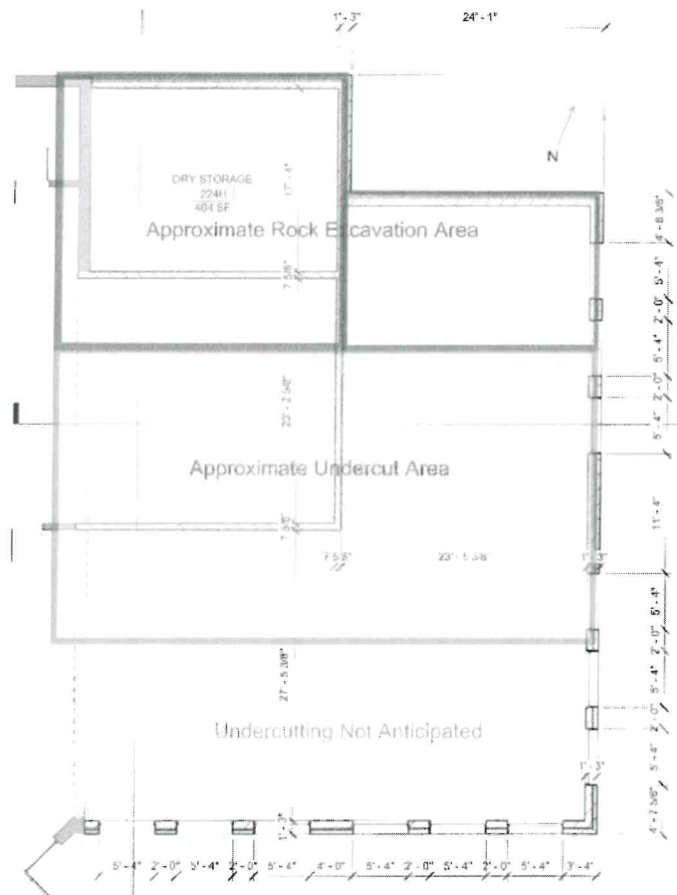
(18) inches of soil to reduce the potential for cracks-caused by differential settlement associated with differing foundation support conditions (rock versus soil). Based on our borings and a finished floor elevation that matches the existing building, we anticipate bedrock excavation to be around two (2) feet in depth. Reference figure 6-1 for the anticipated rock excavation area.

After the soil has been undercut from the addition footprint, a thorough proofroll of the areas should be performed. If soft areas are observed, they should be repaired prior to placing structural fill or beginning foundation construction by undercutting the soft areas and backfilling with compacted structural soil fill. After observing the proofroll, our engineer will provide the recommended repair method, if necessary.

Structural soil fill is defined as inorganic natural soil with a maximum particle size of 3 inches and maximum dry density of at least 100 pounds per cubic foot (pcf) when tested by the standard Proctor method (ASTM D698) and a plasticity index (PI) of less than 30 percent. Structural soil fill should be placed in relatively thin (6- to 8-inch) layers and compacted to at least 98 percent of the standard Proctor maximum dry density for the building pad. In-place density testing must be performed on structural fill as a check that the recommended compaction criteria have been achieved. This allows our project engineer to monitor the quality of the fill construction and assess that the design criteria is being achieved in the field. We further recommend these tests be performed on a full-time basis by S&ME. The testing frequency for density tests performed on a full-time basis can be determined by our personnel based on the area to be tested, the grading equipment used, and construction schedule. Tests should be performed at vertical intervals of 8-inches or less (the recommended lift thickness) as the fill is being placed. Additional Atterberg limits testing should be performed by S&ME after undercutting is complete and before structural fill is placed to confirm high plasticity fat clay (CH) with a PI greater than thirty (30) is below three feet of slab sub grade.

During site preparation, standard Proctor testing and Atterberg limits testing of fill soils should be performed by S&ME for compliance with the project specifications before they are used as fill material. If soils are imported to the site, we recommend the soils be tested for conformance with the project specifications before being transported to the site. Please realize that the laboratory conformance testing usually takes three to four business days to complete. Therefore, the Contractor should plan accordingly.

Figure 6-1: Approximate bedrock excavation area.





6.3 Foundation Recommendations

We recommend the new addition bear on the natural clay and/or structural soil fill. Size the foundation using an allowable bearing pressure of 2,500 pounds per square foot (psf) design. Foundations bearing on varying material types increase the potential for differential settlement, therefore we recommend undercutting bedrock that is present above the footing bearing elevation. Undercut a minimum depth of 18 inches and backfill with compacted structural soil fill.

Table 1805.2.1 of the 2013 Kentucky Building Code indicates a minimum frost protection depth of 24 inches below finished grade is required in Woodford County, Kentucky. We recommend all foundations have a minimum footing width of 24 inches. This dimension allows for hand cleaning of footing subgrades disturbed by the excavation process and the placement of reinforcing steel. The reinforcing steel should be clean and dry prior to concrete placement.

6.4 Floor Slab Recommendations

Assuming our recommendations for site preparation are followed, the floor slab will be supported by newly compacted structural fill material and residual lean clay (CL). A soil supported concrete floor slab can be used for the proposed school provided the subgrade is prepared in accordance with the recommendations provided in this report. Do not use soils with a plasticity index (PI) greater than 30 percent within 3 feet of the floor slab subgrade elevation. This will reduce the potential for shrink/swell cracking of the floor slab.

We recommend control joints be placed in the slab along footing supported walls to reduce cracking due to minor differential settlements. We suggest a layer of compacted dense graded aggregate (DGA) directly beneath the slab to enhance support and provide a working base for construction of the floor slab. The actual DGA thickness should be based on the floor slab design, but our experience suggests a minimum depth of 4 inches. The DGA should be moist, but not wet, as the concrete is placed to reduce curling of the slab as the concrete cures. We recommend that ACI 302.1R-96 "GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION" be followed for design and placement of concrete floor slabs. A copy of ACI 302.1R-96 is included in Appendix IV of this report for your use.

Between completion of grading and slab construction, floor slab subgrades are often disturbed by weather, footing and utility line installation, and other construction activities. For this reason, the subgrade should be evaluated by an S&ME engineer immediately prior to constructing the slab. If the subgrade is not evaluated by an S&ME engineer prior to concrete placement, S&ME must be held harmless for any claims due to poor performance of the floor slab and underlying subgrade.

6.5 Seismic Site Classification

The current seismic design procedures outlined in the NEHRP (National Earthquake Hazard Reduction Program) guidelines mandate structural design loads to be based on coefficients of the site. Based on the results of our exploration and the geology of the area, we recommend a seismic site classification of "D" for this project site.



7.0 FOLLOW-UP SERVICES

Our services should not end with the submission of this geotechnical report. S&ME should be kept involved throughout the design and construction process to maintain continuity and to verify our recommendations are properly interpreted and implemented. To achieve this, we should be retained to review project plans and specifications with the designers to see that our recommendations are fully incorporated. We also should be retained to observe and test the site preparation, foundation excavation, and building construction. If we are not allowed the opportunity to confirm that the conditions revealed during construction are as assumed for design, we cannot be held responsible for the recommendations in this report.

Our familiarity with the site and with the foundation recommendations will make us a valuable part of your construction quality assurance team. In addition, a qualified engineering technician should observe and test all structural concrete and steel. Only experienced, qualified persons trained in geotechnical engineering and familiar with foundation construction should be allowed to evaluate and test foundation excavations. Normally, full-time observations and testing of the site work and foundation installation is appropriate.

8.0 LIMITATIONS OF REPORT

This report has been prepared in accordance with generally accepted geotechnical engineering practice for specific application to this project. The conclusions and recommendations contained in this report are based upon applicable standards of our practice in this geographic area at the time this report was prepared. No other representation or warranty either express or implied, is made.

We relied on project information given to us to develop our conclusions and recommendations. If project information described in this report is not accurate, or if it changes during project development, we should be notified of the changes so that we can modify our recommendations based on this additional information if necessary.

Our conclusions and recommendations are based on limited data from a field exploration program. Subsurface conditions can vary widely between explored areas. Some variations may not become evident until construction. If conditions are encountered which appear different than those described in our report, we should be notified. This report should not be construed to represent subsurface conditions for the entire site.

Unless specifically noted otherwise, our field exploration program did not include an assessment of regulatory compliance, environmental conditions or pollutants or presence of any biological materials (mold, fungi, bacteria). If there is a concern about these items, other studies should be performed. S&ME can provide a proposal and perform these services if requested.

S&ME should be retained to review the final plans and specifications to confirm that earthwork, foundation, and other recommendations are properly interpreted and implemented. The recommendations in this report are contingent on S&ME's review of final plans and specifications followed by our observation and monitoring of earthwork and foundation construction activities. For more information on the use and limitations of this report, please read the GBA document that follows this page.

Important Information about This Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a civil engineer may not fulfill the needs of a constructor — a construction contractor — or even another civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. No one except you should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you — should apply this report for any purpose or project except the one originally contemplated.*

Read the Full Report

Serious problems have occurred because those relying on a geotechnical-engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

Geotechnical Engineers Base Each Report on a Unique Set of Project-Specific Factors

Geotechnical engineers consider many unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk-management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical-engineering report that was:

- not prepared for you;
- not prepared for your project;
- not prepared for the specific site explored; or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical-engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an

assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical-engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical-engineering report whose adequacy may have been affected by:* the passage of time; man-made events, such as construction on or adjacent to the site; or natural events, such as floods, droughts, earthquakes, or groundwater fluctuations. *Contact the geotechnical engineer before applying this report to determine if it is still reliable.* A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ — sometimes significantly — from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide geotechnical-construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are Not Final

Do not overrely on the confirmation-dependent recommendations included in your report. *Confirmation-dependent recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's confirmation-dependent recommendations if that engineer does not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A Geotechnical-Engineering Report Is Subject to Misinterpretation

Other design-team members' misinterpretation of geotechnical-engineering reports has resulted in costly

problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical-engineering report. Confront that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical-engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical-engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.*

Read Responsibility Provisions Closely

Some clients, design professionals, and constructors fail to recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help

others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Environmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold-prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold- prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical- engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

Rely, on Your GBC-Member Geotechnical Engineer for Additional Assistance

Membership in the Geotechnical Business Council of the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you GBC-Member geotechnical engineer for more information.



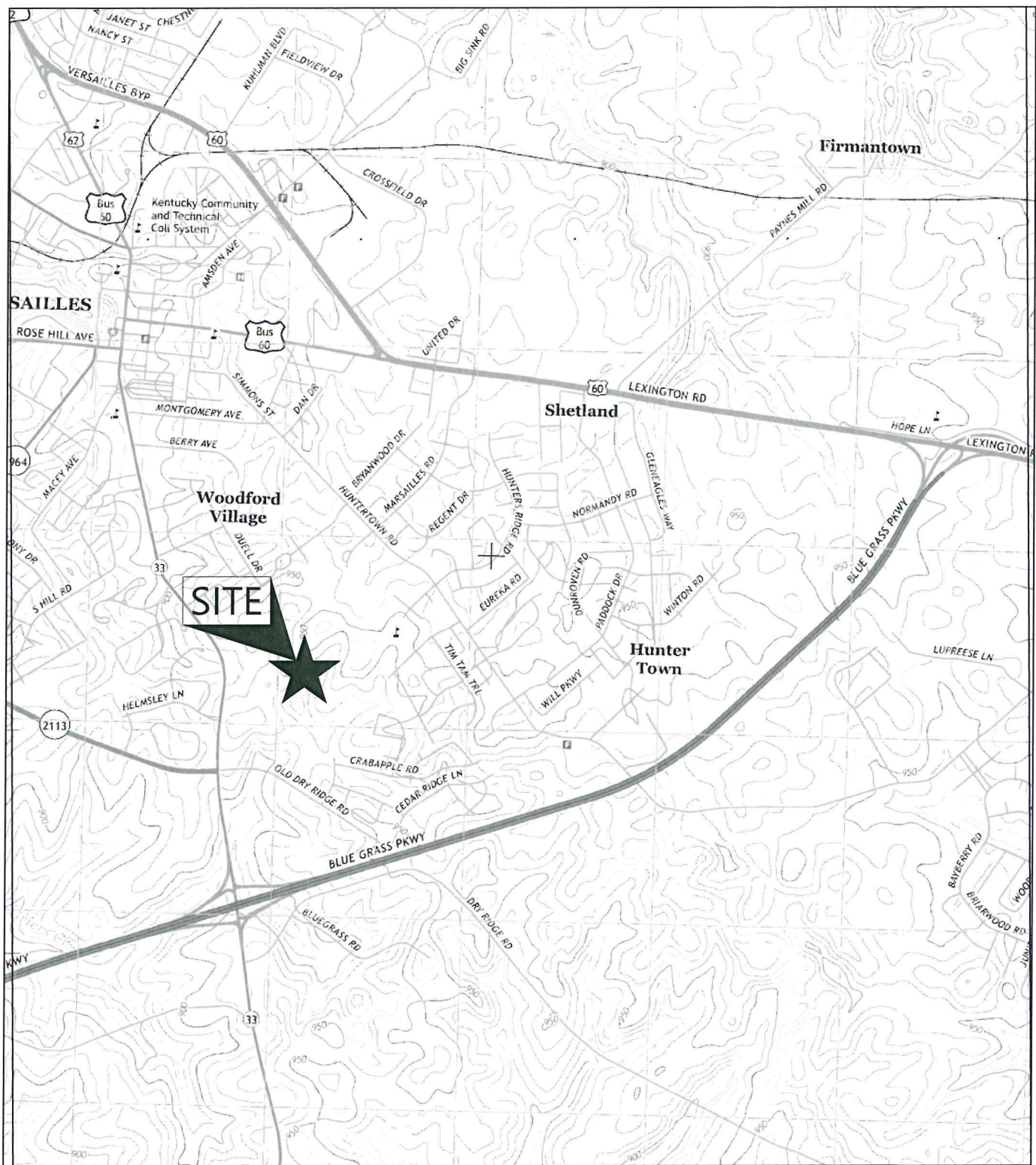
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Appendix I – Site Location Plan/Boring Location Plan



USGS Mapping:
Versailles, KY



GRAPHIC SCALE



Vicinity Map

Geotechnical Report
Southside Elementary School Cafeteria and Kitchen Expansion
Versailles, KY

SCALE:

1:2000

DATE:

JUNE 21, 2018

PROJECT NUMBER

1183-18-030

FIGURE NO.

1



Boring Layout Plan

Geotechnical Report
 Southside Elementary School Cafeteria and Kitchen Expansion
 Versailles, KY

SCALE:

NTS

DATE:

JUNE 21, 2018

PROJECT NUMBER

1183-18-030

FIGURE NO.

2

Appendix II – Test Boring Records

TEST BORING RECORD LEGEND

FINE AND COARSE GRAINED SOIL INFORMATION

COARSE GRAINED SOILS (SANDS & GRAVELS)		FINE GRAINED SOILS (SILTS & CLAYS)			PARTICLE SIZE	
N	Relative Density	N	Consistency	Qu, KSF Estimated		
0-4	Very Loose	0-1	Very Soft	0-0.5	Boulders	Greater than 300 mm (12 in)
5-10	Loose	2-4	Soft	0.5-1	Cobbles	75 mm to 300 mm (3 to 12 in)
11-20	Firm	5-8	Firm	1-2	Gravel	4.74 mm to 75 mm (3/16 to 3 in)
21-30	Very Firm	9-15	Stiff	2-4	Coarse Sand	2 mm to 4.75 mm
31-50	Dense	16-30	Very Stiff	4-8	Medium Sand	0.425 mm to 2 mm
Over 50	Very Dense	Over 31	Hard	8+	Fine Sand	0.075 mm to 0.425 mm
					Silts & Clays	Less than 0.075 mm









































The **STANDARD PENETRATION TEST** as defined by ASTM D 1586 is a method to obtain a disturbed soil sample for examination and testing and to obtain relative density and consistency information. A standard 1.4-inch I.D./2-inch O.D. split-barrel sampler is driven three 6-inch increments with a 140 lb. hammer falling 30 inches. The hammer can either be of a trip, free-fall design, or actuated by a rope and cathead. The blow counts required to drive the sampler the final two increments are added together and designate the N-value defined in the above tables.

ROCK PROPERTIES

ROCK QUALITY DESIGNATION (RQD)		ROCK HARDNESS	
Percent RQD	Quality		
0-25	Very Poor	Very Hard:	Rock can be broken by heavy hammer blows.
		Hard:	Rock cannot be broken by thumb pressure, but can be broken by moderate hammer blows.
25-50	Poor	Moderately Hard:	Small pieces can be broken off along sharp edges by considerable hard thumb pressure; can be broken with light hammer blows.
50-75	Fair	Soft:	Rock is coherent but breaks very easily with thumb pressure at sharp edges and crumbles with firm hand pressure.
75-90	Good	Very Soft:	Rock disintegrates or easily compresses when touched; can be hard to very hard soil.
90-100	Excellent		

Recovery =					
	$\frac{\text{Length of Rock Core Recovered}}{\text{Length of Core Run}} \times 100$			<u>Core Diameter</u>	<u>Inches</u>
		63 REC		BQ	1-7/16
		NQ		NQ	1-7/8
		43 RQD		HQ	2-1/2
RQD =					
	$\frac{\text{Sum of 4 in. and longer Rock Pieces Recovered}}{\text{Length of Core Run}} \times 100$				

SYMBOLS

KEY TO MATERIAL TYPES				SOIL PROPERTY SYMBOLS	
	Topsoil		High Plasticity Inorganic Silt or Clay	N:	Standard Penetration, BPF
	Asphalt		Organic Silts/Clays	M:	Moisture Content, %
	Crushed Limestone		Well-Graded Gravel	LL:	Liquid Limit, %
	Fill Material		Poorly-Graded Gravel	PI:	Plasticity Index, %
	Shot-rock Fill		Silty Gravel	Qp:	Pocket Penetrometer Value, TSF
	Low Plasticity Inorganic Silt		Clayey Gravel	Qu:	Unconfined Compressive Strength Estimated Qu, TSF
	High Plasticity Inorganic Silt		Well-Graded Sand	γ	Dry Unit Weight, PCF
	Low Plasticity Inorganic Clay		Poorly-Graded Sand	D:	
	High Plasticity Inorganic Clay		Silty Sand	F:	Fines Content
	Low Plasticity Inorganic Silt or Clay		Clayey Sand		
	Peat		Limestone	SAMPLING SYMBOLS  Undisturbed Sample  Split-Spoon Sample  Rock Core Sample  Auger or Bag Sample	
	Sandstone		Siltstone		
	Claystone		Weathered Rock		
	Dolomite		Granite		
	Gneiss		Schist		No Sample Recovery
	Amphibolite				Water Level After Drilling
	Metagraywacke				Extended Time Reading
	Phyllite				



TEST BORING RECORD

BORING NO: **B-1**

PROJECT: Southside Elementary School Cafeteria Addition		JOB NO: 1183-18-030	REPORT NO:
PROJECT LOCATION: Versailles, Kentucky			
ELEVATION: 499.0	BORING STARTED: 6/6/2018		BORING COMPLETED: 6/6/2018
DRILLING METHOD: 6-7/8" OD HSA	RIG TYPE: D-50		HAMMER: Automatic
GROUNDWATER (ft): Dry upon completion of boring		BORING DIAMETER (IN): 7	SHEET 1 OF 1
Remarks: Assumed F.F.E of existing cafeteria entrance to be 500.0 feet.			

Groundwater	ELEV. (FT.)	DEPTH (FT.)	MATERIAL DESCRIPTION	Lithology	Sample Type	Recovery (in)	RQD (%)	Qp (tsf)	STANDARD PENETRATION RESISTANCE (N)	BLOWS /6"
	499.0	0	Topsoil- 5 inches							
	498.6		LEAN CLAY (CL), with black oxide nodules, STIFF, orange brown, moist			14				2 - 5 - 6
						24		1.20		
	494.5	5	FAT CLAY (CH), FIRM, orange brown, moist			12				2 - 3 - 5
	492.5		Weathered limestone							
	492.2		Boring terminated at 6.8 feet upon encountering auger refusal							
		10								



TEST BORING RECORD

BORING NO: **B-2**

PROJECT: Southside Elementary School Cafeteria Addition		JOB NO: 1183-18-030	REPORT NO:
PROJECT LOCATION: Versailles, Kentucky			
ELEVATION: 498.1	BORING STARTED: 6/6/2018		BORING COMPLETED: 6/6/2018
DRILLING METHOD: 6-7/8" OD HSA	RIG TYPE: D-50		HAMMER: Automatic
GROUNDWATER (ft): Dry upon completion of boring		BORING DIAMETER (IN): 7	SHEET 1 OF 1
Remarks: Assumed F.F.E of existing cafeteria entrance to be 500.0 feet.			

Groundwater	ELEV. (FT.)	DEPTH (FT.)	MATERIAL DESCRIPTION	Lithology	Sample Type	Recovery (in)	RQD (%)	Qp (tsf)	STANDARD PENETRATION RESISTANCE (N)	BLOWS /6"
	498	0	Topsoil- 6 inches							
	497.6		LEAN CLAY (CL), STIFF, brown, moist			18				2 - 8 - 7
	496.8		FAT CLAY (CH), STIFF, orange brown, moist							
						9				3 - 5 - 5
	494.5		Weathered limestone							
	494.4		Boring terminated at 3.7 feet upon encountering auger refusal							
		5								
		10								



TEST BORING RECORD

BORING NO: **B-3**

PROJECT: Southside Elementary School Cafeteria Addition		JOB NO: 1183-18-030	REPORT NO:
PROJECT LOCATION: Versailles, Kentucky			
ELEVATION: 498.3	BORING STARTED: 6/6/2018		BORING COMPLETED: 6/6/2018
DRILLING METHOD: 6-7/8" OD HSA	RIG TYPE: D-50		HAMMER: Automatic
GROUNDWATER (ft): Dry upon completion of boring		BORING DIAMETER (IN): 7	SHEET 1 OF 1
Remarks: Assumed F.F.E of existing cafeteria entrance to be 500.0 feet.			

Groundwater	ELEV. (FT.)	DEPTH (FT.)	MATERIAL DESCRIPTION	Lithology	Sample Type	Recovery (in)	RQD (%)	Qp (tsf)	STANDARD PENETRATION RESISTANCE (N)	BLOWS /6"
	498	0	Topsoil- 3 inches						0 10 20 30 40 50	
	498.1		LEAN CLAY (CL), brown, moist			8				3 - 5 - 50/3
	497.5		FAT CLAY (CH), orange brown, moist							
	497.1		Boring terminated at 1.2 feet upon encountering auger refusal							
		5								
		10								



TEST BORING RECORD

BORING NO: B-4

PROJECT: Southside Elementary School Cafeteria Addition		JOB NO: 1183-18-030	REPORT NO:
PROJECT LOCATION: Versailles, Kentucky			
ELEVATION: 498.7	BORING STARTED: 6/6/2018		BORING COMPLETED: 6/6/2018
DRILLING METHOD: 6-7/8" OD HSA	RIG TYPE: D-50		HAMMER: Automatic
GROUNDWATER (ft): Dry upon completion of boring		BORING DIAMETER (IN): 7	SHEET 1 OF 1

Remarks: Assumed F.F.E of existing cafeteria entrance to be 500.0 feet.

Groundwater	ELEV. (FT.)	DEPTH (FT.)	MATERIAL DESCRIPTION	Lithology	Sample Type	Recovery (in)	ROD (%)	Qp (tsf)	STANDARD PENETRATION RESISTANCE (N)						BLOWS /6"
									0	10	20	30	40	50	
	499 498.5	0	Topsoil- 3 inches FAT CLAY (CH), orange brown, moist			9									3 - 5 - 50/3
	497.5		Boring terminated at 1.2 feet upon encountering auger refusal												
		5													
		10													



TEST BORING RECORD

BORING NO: **B-5**

PROJECT: Southside Elementary School Cafeteria Addition		JOB NO: 1183-18-030	REPORT NO:
PROJECT LOCATION: Versailles, Kentucky			
ELEVATION: 499.0	BORING STARTED: 6/6/2018		BORING COMPLETED: 6/6/2018
DRILLING METHOD: 6-7/8" OD HSA	RIG TYPE: D-50		HAMMER: Automatic
GROUNDWATER (ft): Dry upon completion of boring		BORING DIAMETER (IN): 7	SHEET 1 OF 1
Remarks: Assumed F.F.E of existing cafeteria entrance to be 500.0 feet.			

Groundwater	ELEV. (FT.)	DEPTH (FT.)	MATERIAL DESCRIPTION	Lithology	Sample Type	Recovery (in)	RQD (%)	Qp (tsf)	STANDARD PENETRATION RESISTANCE (N)	BLOWS /6"
	499.0	0	Topsoil- 4 inches							
	498.7		LEAN CLAY (CL), with gravel, VERY STIFF, dry to moist			13				
	498.5		FAT CLAY (CH), with black oxide nodules, yellow brown, moist							3 - 10 - 10
						24		1.04		
	494.8		FAT CLAY (CH), with black oxide nodules, orange brown, moist			4				50/5
	494.6		Boring terminated at 4.4 feet upon encountering auger refusal							
		5								
		10								

FIELD TESTING PROCEDURES

Field Operations: The general field procedures employed by S&ME, Inc. 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 a field engineer who is on site to direct the drilling operations and log the recovered samples. 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 that 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 5-5/8" outer diameter auger into the soil. At regular intervals, the drilling tools were removed and 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".

Representative portions of the 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.

Soil Auger Soundings: Soil auger soundings were made at the site at the locations shown on the attached Boring Location Plan. The soundings were performed by mechanically twisting a steel auger into the soil. However, unlike the soil test borings, a smaller diameter solid stem auger was used and no split-spoon samples were obtained. The driller provided a general description of the soil encountered by observing the soils brought to the surface by the twisting auger. The auger was advanced until refusal materials were encountered and the refusal depth was noted by the driller. The auger is then withdrawn and the depths to water or caved materials are then measured and recorded by the driller.

Soil auger soundings provide a rapid, economical method of obtaining the approximate bedrock depth, groundwater depth, and general soil conditions at locations where detailed soil testing and sampling is not required.

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.

Appendix III – Laboratory Testing Results

Lab Summary



S&ME, Inc. - Knoxville: 1413 Topside Road, Louisville, TN 37777

Project No.: 1183-18-030 Report Date: 06/18/18

Project Name: Southside Elementary School Cafeteria and Kitchen Addition

Client Name: Woodford County Board of Education

Client Address: 330 Peggah Pike, Versailles, KY

BORING NO.	SAMPLE DEPTH, FT.	SAMPLE TYPE	USCS	NATURAL MOISTURE CONTENT, %	ATT. LIMITS			APPROX % RET. ON #40	MAX DRY DENSITY, PCF @ OPT MC % (STD. PROCTOR)	WET UNIT WEIGHT, PCF	DRY UNIT WEIGHT, PCF	APPROX ROCK UNCONFINED COMPRESSIVE STRENGTH, PSI	SOIL UNCONFINED COMPRESSIVE STRENGTH, PSF	% FINER THAN NO. 200	INTER-POLATED AT 90% CBR, %
					LL	PL	PI								
B-1	0.0 - 1.5	SPT		17.7											
B-1	2.0 - 4.0	UD	CL	23.7	41	21	20	45		125.1	101.1		2,402		
B-1	4.0 - 5.5	SPT		25.7											
B-2	0.0 - 1.5	SPT		19.1											
B-2	2.0 - 3.5	SPT	CH	28.0	69	25	44	14							
B-3	0.0 - 1.1	SPT		20.6											
B-4	0.0 - 1.1	SPT		22.8											
B-5	0.0 - 1.5	SPT		18.6											
B-5	2.0 - 4.0	UD	CH	35.7	83	33	50	35		117.4	86.5		2,082		
B-5	4.0 - 4.4	SPT		23.3											

Notes:

Jeffery A. Abston
Technical Responsibility

Signature

Project Engineer
Position

06/18/18
Date

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Form No. TR-D2166-01

Revision No. : 0

Revision Date: 2/5/13

Unconfined Compressive Strength of Cohesive Soils

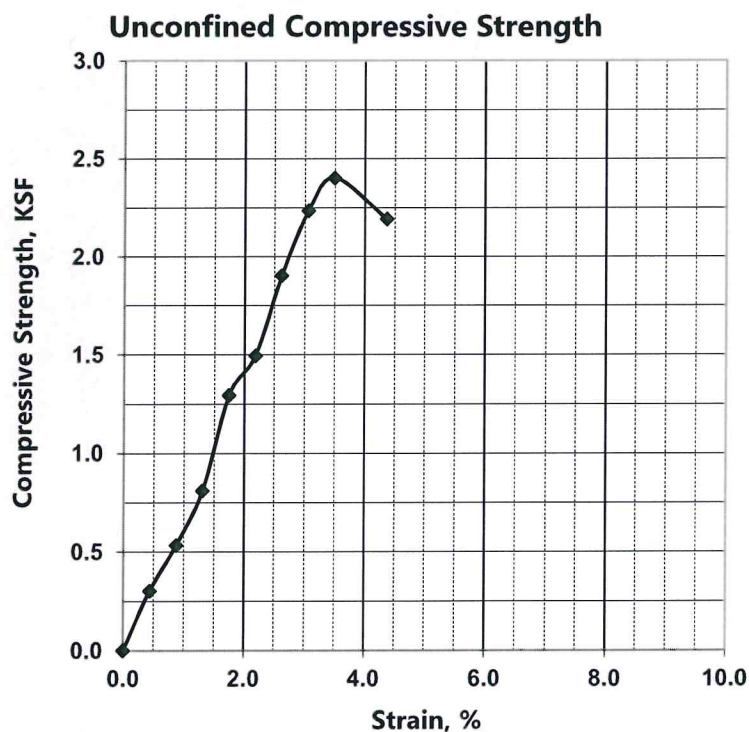
ASTM D2166



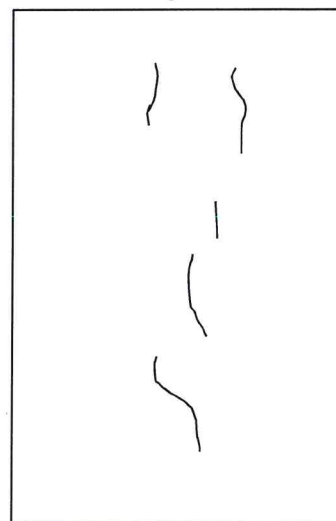
S&ME, Inc. - Knoxville: 1413 Topside Road, Louisville, TN 37777

Project No.:	1183-18-030	Log No.:	S1598	Report Date:	6/18/2018
Project Name:	Southside Elementary School Cafeteria and Kitchen Addition			Test Date(s):	6/14/2018
Client Name:	Woodford County Board of Education				
Client Address:	330 Peggah Pike, Versailles, KY				
Boring #:	B-1	Sample #:	UD	Sample Date:	6/6/2018
				Depth:	2 - 4 ft

Sample Description:	Brown Silty Clay				
Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance(s)	9398	04/10/18	Load Cell 1000 lbs.	16036	04/09/18
Calipers	32243	01/15/18	Deflection (inches)	16536	10/14/17
Load Frame	8050	02/09/18	Stop Watch	31680	06/02/18



Failed Specimen



Type of Sample: UD
 Source of Moisture Sample: Timmings

Initial Dry Unit Weight: 101.1 pcf Initial Water Content: 23.7%
 Unconfined Compressive Strength, q_u : **2.402** KSF
 Undrained Shear Strength, s_u : **1.201** KSF

Liquid Limit: 41
 Plasticity Index: 20
 Height to Diameter Ratio: 2.0
 Rate of Strain (%/m): 0.88
 Strain at Failure: 3.5

Notes:

Jeffery A. Abston, P.E.
 Technical Responsibility

Jeffery A. Abston
 Signature

Project Engineer
 Position

6/18/2018
 Date

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Form No. TR-D2166-01

Revision No. : 0

Revision Date: 2/5/13

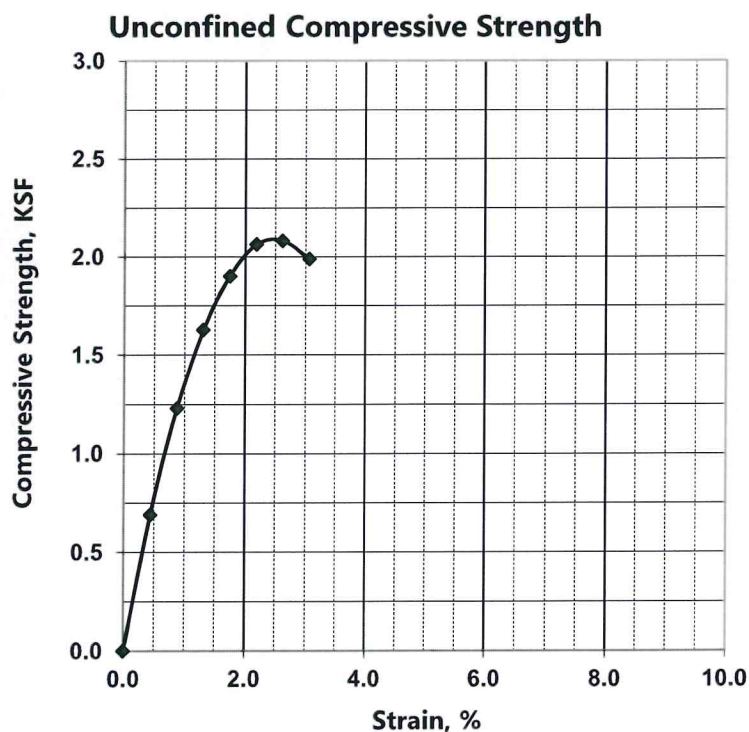
Unconfined Compressive Strength of Cohesive Soils

ASTM D2166

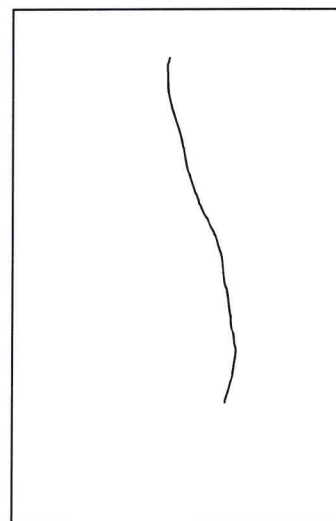


S&ME, Inc. - Knoxville: 1413 Topside Road, Louisville, TN 37777

Project No.:	1183-18-030	Log No.:	S1598	Report Date:	6/18/2018
Project Name:	Southside Elementary School Cafeteria and Kitchen Addition			Test Date(s):	6/14/2018
Client Name:	Woodford County Board of Education				
Client Address:	330 Peggah Pike, Versailles, KY				
Boring #:	B-5	Sample #:	UD	Sample Date:	6/6/2018
				Depth:	2 - 4 ft
Sample Description:	Brown with Tan Silty Clay				
Type and Specification	S&ME ID #	Cal Date:	Type and Specification	S&ME ID #	Cal Date:
Balance(s)	9398	04/10/18	Load Cell 1000 lbs.	16036	04/09/18
Calipers	32243	01/15/18	Deflection (inches)	16536	10/14/17
Load Frame	8050	02/09/18	Stop Watch	31680	06/02/18



Failed Specimen



Type of Sample: UD
Source of Moisture Sample: Trimming

Initial Dry Unit Weight: 86.5 pcf Initial Water Content: 35.7%
Unconfined Compressive Strength, q_u : **2.082** KSF
Undrained Shear Strength, s_u : **1.041** KSF

Liquid Limit: 83
Plasticity Index: 50
Height to Diameter Ratio: 2.0
Rate of Strain (%/m): 0.88
Strain at Failure: 2.6

Notes:

Jeffery A. Abston, P.E.
Technical Responsibility

Jeffery A. Abston
Signature

Project Engineer
Position

6/18/2018
Date

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Appendix IV– ACI Floor Design Guide

ADDENDUM
GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION
(302.1R-96)
Vapor Retarder Location

The report of ACI Committee 302, "Guide for Concrete Floor and Slab Construction (ACI 302.1R-96)" states in section 4.1.5 that "if a vapor barrier or retarder is required due to local conditions, these products should be placed under a minimum of 4 in. (100 mm) of trimable, compactible, granular fill (not sand)." ACI Committee 302 on Construction of Concrete Floors, and Committee 360 on Design of Slabs on Ground have found examples where this approach may have contributed to floor covering problems.

Based on the review of the details of problem installations, it became clear that the fill course above the vapor retarder can take on water from rain, wet-curing, wet-grinding or cutting, and cleaning. Unable to drain, the wet or saturated fill provides an additional source of water that contributes to moisture-vapor emission rates from the slab well in excess of the 3 to 5 lb/1000 ft²/24 h (1.46 to 2.44 kg/100 m²/24 h) recommendation of the floor covering manufacturers.

As a result of these experiences, and the difficulty in adequately protecting the fill course from water during the construction process, caution is advised on the use of the granular fill layer when moisture-sensitive finishes are to be applied to the slab surface.

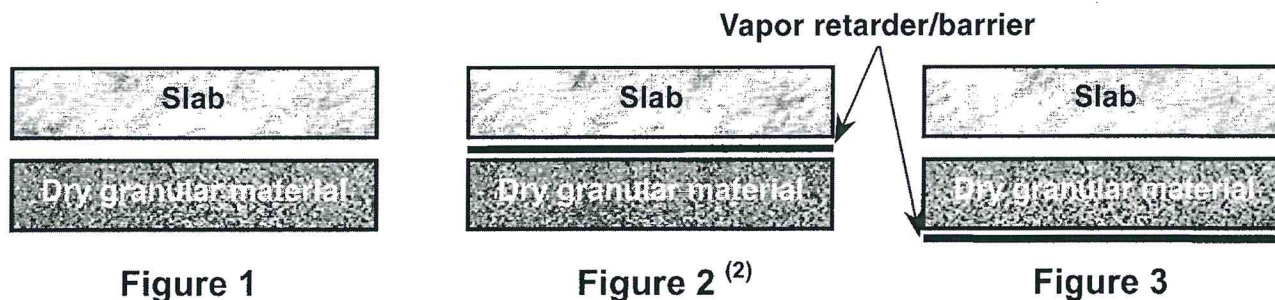
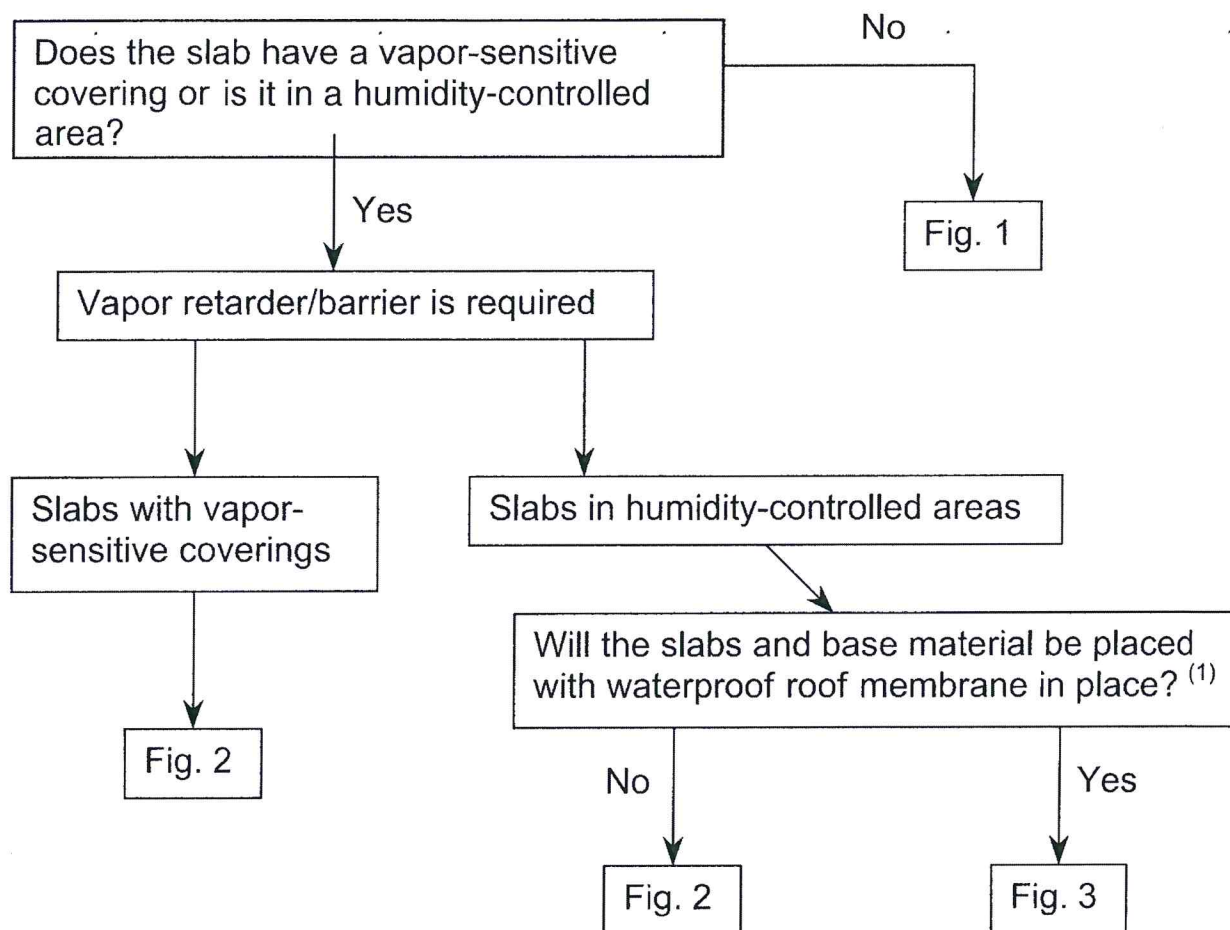
The committees believe that when the use of a vapor retarder or barrier is required, the decision whether to locate the retarder or barrier in direct contact with the slab or beneath a layer of granular fill should be made on a case-by-case basis.

Each proposed installation should be independently evaluated by considering the moisture sensitivity of subsequent floor finishes, anticipated project conditions and the potential effects of slab curling and cracking.

The following chart can be used to assist in deciding where to place the vapor retarder. The anticipated benefits and risks associated with the specified location of the vapor retarder should be reviewed with all appropriate parties before construction.

ADDENDUM
GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION
(302.1R-96)

Flow Chart for Location of Vapor Retarder/Barrier



(1) If granular material is subject to future moisture infiltration, use Fig. 2

(2) If Fig. 2 is used, reduced joint spacing, a concrete with low shrinkage potential, or other measures to minimize slab curling will likely be required.

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FORM OF PROPOSAL

BG No. 18-329

Date: _____ To: (Owner) _____

Project Name: _____ Bid Package No. _____

City, County: _____

Name of Contractor: _____

Mailing Address: _____

Business Address: _____ Telephone: _____

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
1	VRV Equipment			<input type="checkbox"/>
2	HVAC Controls			<input type="checkbox"/>
3	2 & 3 Compartment Sinks			<input type="checkbox"/>
4	Underground Sanitary Piping			<input type="checkbox"/>
5	Existing Kitchen Ceiling & Fixtures			<input type="checkbox"/>
6	Concrete Walk for Playground			<input type="checkbox"/>
7	Kitchen Ice Machine, Shelving & Tables			<input type="checkbox"/>

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

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FORM OF PROPOSAL

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.

	<u>BRANCH OF WORK</u> (to be filled out by the Architect)	<u>SUBCONTRACTOR</u> (to be filled out by the contractor)
1	EARTHWORK	
2	SITE STORMWATER	
3	ASPHALT PAVING	
4	SITE CONCRETE	
5	LANDSCAPING	
6	SITE SANITARY SEWER	
7	BUILDING CONCRETE	
8	UNIT MASONRY	
9	STEEL ERECTION	
10	STEEL FABRICATOR	
11	MODIFIED BITUMEN ROOFING	
12	EPDM ROOFING (CARLISLE CERTIFIED)	
13	DOOR, FRAME & HARDWARE	
14	ALUMINUM WINDOWS	

15	SUSPENDED CEILING SYSTEMS	
16	PAINTING	
17	HVAC	
18	PLUMBING	
19	INSULATION	
20	TEMPERATURE CONTROLS	
21	ELECTRICAL	
22	FIRE ALARM	
23	SOUND	
24	DATA	
25	FIRE PROTECTION	
26	PAGING/INTERCOM	

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.

	<u>MATERIAL DESCRIPTION BY SPECIFICATION DIVISION AND CATEGORY</u> (to be filled out by the Architect or Contractor)	<u>SUPPLIER</u> (to be filled out by the Contractor)	<u>MANUFACTURER</u> (to be filled out by the Contractor)
1	CONCRETE SUPPLIER		
2	UNIT MASONRY SUPPLIER		

3	BRICK SUPPLIER		
4	BRICK MANUFACTURER		
5	STEEL JOISTS		
6	STEEL SUPPLIER		
7	MODIFIED BITUMEN ROOFING		
8	ALUMINUM WINDOWS		
9	SUSPENDED CEILINGS		
10	PAINT		
11	VARIABLE REFRIGERANT EQUIP.		
12	PANELBOARDS		
13	LIGHT FIXTURES		
14	WIRING DEVICES		
15	FIRE ALARM DEVICES		
16	PAGING/INTERCOM		

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.

	<u>WORK</u> (to be filled out by the Architect)	<u>PRICE / UNIT</u> (to be filled out by the Contractor)	<u>UNIT</u> (to be filled out by the Contractor)
1	Unclassified excavation		
2	6" thick concrete sidewalk		
3	1/4" Soft Copper Refrigerant Piping with insulation and hangers		

4	3/8" Soft Copper Refrigerant Piping with insulation and hangers		
5	1/2" Soft Copper Refrigerant Piping with insulation and hangers		
6	5/8" Soft Copper Refrigerant Piping with insulation and hangers		
7	7/8" Soft Copper Refrigerant Piping with insulation and hangers		
8	1-1/8" Soft Copper Refrigerant Piping with insulation and hangers		
9	4" Exterior Sanitary Sewer 5' deep in earth		
10	3/4" Domestic Water Piping with insulation and hangers		
11	Fire Alarm A/V Device with 50' of conduit and wiring		
12	Intercom Speaker with 50' of conduit and wiring		
13	Duplex Receptacle with 50' of conduit and wiring		
14	Light Fixture X2 with 50' of conduit and wiring		

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FORM OF PROPOSAL

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 10 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.

	<u>SUPPLIER</u> (to be filled out by the Contractor)	<u>PURCHASE ORDER DESCRIPTION</u> (to be filled out by the Contractor)	<u>PURCHASE ORDER AMT.</u> (to be filled out by the Contractor)
1.			
2.			

3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

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FORM OF PROPOSAL

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 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 of the Kentucky Building Code.
 - 2. Steel Construction per Section 1704.3 of the Kentucky Building Code.
 - 3. Concrete Construction per Section 1704.4 of the Kentucky Building Code.
 - 4. Masonry Construction per Section 1704.5 of the Kentucky Building Code.
 - 5. Prepared Fill per Section 1704.7 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 by 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 RESPONSIBILITIES

- 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

- 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