EMMA B. TRASK MIDDLE SCHOOL RENOVATIONS

FOR

NEW HANOVER COUNTY SCHOOLS

PROJECT BID MANUAL

MARCH 31, 2019

Owner:

New Hanover County Schools

New Hanover County Schools
6410 Carolina Beach Road
Wilmington, NC 28412

Architect:

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE

Sawyer Sherwood & Associate, P.C.
124 Market Street
Wilmington, NC 28401

Contractor:

BARNHILL CONTRACTING COMPANY

Barnhill Contracting Company
4325 Pleasant Valley Road
Raleigh, NC 27612

BCC PROJECT NO: 1102018
NHCS PROJECT NO: 900-9009

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Section One

General Information

NOTICE TO PREQUALIFIED BIDDERS

Date: March 31, 2019

RE: **Trask Middle School Renovations**
BCC Project No.: 1102018

To All Bidders:

Your firm is encouraged to participate on a prequalified Bidders List for the Work on the above referenced project. This project consists of renovations to the following existing areas: Administration areas with new entry vestibule, Media Center, Class Rooms, bathroom & locker room renovations, gymnasium, courtyard and cafeteria improvements. On-site and off-site construction shall consist of grading, storm drainage, utilities, site improvements, paving, landscaping, and fencing. Selective interior demolition and abatement. Building interiors are to consist of CMU, drywall, acoustical ceilings, VCT flooring, porcelain tile and bleacher replacement. Renovations will be constructed of load bearing CMU exterior light gauge metal framing, metal panel exterior, and curtain wall assemblies. The interior shall consist of acoustical ceilings, indoor / outdoor pavers, carpet and casework. Media center interior wall systems will be a mix of CMU partitions, GWB partitions. The new classroom renovation portion of the project will consist of light demolition, acoustical ceilings, solid surface casework, painting, flooring, and building specialties. The existing restroom renovations will consist of the demolition and replacement of existing toilet fixtures, specialties and finishes to accommodate all new construction. A new clerestory will be added above classrooms. The roofing for entire school will consist of a low slope PVC roof overlay with roof drains and scuppers. Plumbing, HVAC and Electrical replacements will be made.
Work is for New Hanover County Schools located on the existing Trask Middle School Campus located at 2900 N College Road, Wilmington NC 28405

Barnhill Contracting Company has been retained by the Owner, New Hanover Board of Education, as the Construction Manager at Risk for the construction of the Trask Middle School Renovations. The Design Professional is Sawyer Sherwood & Associate Architecture.

1. Complete plans, specifications, and contract documents will be available after 1:00 PM April 1, 2019 for inspection to view, purchase or download for free in the online digital plan room of Barnhill Contracting Company at **www.barnhillplanroom.com**.

Hard copies of project documents will also be available to purchase through the online plan room of Barnhill Contracting Company at **www.barnhillplanroom.com** or by contacting Digital Print & Imaging (DPI) at 910-341-3005.

The pre-bid meeting will be held at Trask Middle School 2900 North College Road – in the school's Cafeteria.

Wednesday, April 10, 2019 from 4:00 PM to 5:30 PM

Attendance at the pre-bid meeting is strongly encouraged. Failure to attend the pre-bid meeting is in no way an avenue to apply for additional consideration or change order compensation at a later date.

Sealed bid submissions are due at Date and Times listed below for bid packages listed. Facsimile or email Bid Proposals will **NOT** be accepted.

DO NOT MAIL BID FORMS DIRECTLY TO NEW HANOVER COUNTY SCHOOLS

Sealed Bids can also be delivered before **5:00 PM on the day before** the scheduled bid opening to the Wilmington office of Barnhill Contracting Company at the address listed below:

Barnhill Contracting Company
272 North Front St., Suite 420
Wilmington, NC 28401
Attn: Brad Martin

Barnhill Contracting Company will receive, open and read publicly all bid proposals received at:
New Hanover County Schools 6410 Carolina Beach Road Wilmington, NC 28412 – Admin 101

Bid Date: Thursday, 04/25/19 at 9:00 AM

BP100-General Trades
BP105-Final Cleaning
BP220-Demolition & Abatement
BP250-Turnkey Sitework
BP290-Landscaping & Irrigation
BP390-Turnkey Concrete
BP400-Turnkey Masonry
BP500-Turnkey Steel
BP620-MIllwork
BP740-Roofing
BP742-Metal Wall Panels
BP790-Caulking & Waterproofing
BP800-Turnkey Doors, Frames, Hardware
BP840-Storefronts, Glass & Glazing

Bid Date: Thursday, 04/25/19 at 1:00 PM

BP925-Metal Studs & Drywall
BP930-Ceramic Tile
BP960-Resilient, Carpet, Base
BP980-Acoustical Ceilings
BP990-Painting
BP1005-Toilet Specialties & Accessories, Div 10
BP1010-Identifiying Devices
BP1240-Telescoping Bleachers
BP1540-Plumbing
BP1550-Turnkey HVAC
BP1600-Turnkey Electrical

All Bidders are strongly encouraged to include opportunities for Minority Business participation wherever possible in their respective Bid submission. Minority Business is a part of this contract and must comply with the State of North Carolina General Statutes.

Bid Security (Bid Bond) Requirement: **Bid Bonds are required on ALL bid packages that meet or exceed $300,000.00.**

Performance and Payment Bond Requirement: **Noted on bid forms as an ADD Alternate Price.**

The Construction Manager and Owner reserve the right to add pre-qualified bidders. The Construction Manager and Owner reserve the right to reject any and all proposals. Additional Bid Packages may be added and/or deleted at the discretion of the Construction Manager.

All bidders are responsible for reviewing the enclosed information and verifying the drawings and specifications listed are in fact included. All bidders must contact Barnhill Contracting Company within forty-eight (48) hours of receipt of this bid package if for any reason any drawing or specification information is not included.

All questions will be expeditiously answered via addendum to be shared with all Bidders. Questions will be accepted up to **10-days** prior to the published bid date. Questions received after the fact will not be addressed. All technical questions must be submitted in writing.

On behalf of New Hanover County Schools, Sawyer Sherwood & Associate Architecture, and Barnhill Contracting Company, we ***"Thank You"*** in advance for the valuable time and effort you will be expending pursuing and preparing your Bid Proposal. Should you require additional direction, please contact Barnhill Contracting Company's, Senior Project Manager, **Brad Martin, at 919-785-6919, bmartin@barnhillcontracting.com.**

END OF SECTION

Project Information Sheet

PROJECT NAME:	**Trask Middle School Renovations** **BCC Job # 1102018**	
LOCATION:	**Emma B. Trask Middle School** 2900 North College Road Wilmington, NC 28405	
OWNER:	**New Hanover County Schools** 6410 Carolina Beach Road Wilmington, NC 28412	
CONSTRUCTION MANAGER:	**Barnhill Contracting Company** 272 North Front Street, Suite 420 Wilmington, NC 28401	Phone 919-785-6919
	Bidding/Construction Phase Brad Martin Senior Project Manager	Email: bmartin@barnhillcontracting.com Phone 919-785-6919
	Prequalification Forms/Bid Documents Carie Lamson	Email: clamson@barnhillcontracting.com Phone 919-785-9176
ARCHITECT:	**Sawyer, Sherwood and Associates** 124 Market St Wilmington, NC 28401	Phone 910-762-0892
STRUCTURAL:	**Woods Engineering** 254 North Front St #201 Wilmington, NC 28401	Phone 910-343-8007
PME:	**Cheatham & Associates, P.A** 3412 Enterprise Drive Wilmington, NC 28405	Phone 910-452-4210
CIVIL	**CLH Design, P.A.** 400 Regency Forest Drive #120 Cary, NC 27518	Phone 919-319-6716

END OF SECTION

INSTRUCTIONS TO BIDDERS

ARTICLE 1. DEFINITIONS

1.1 All definitions set forth in the General Conditions and Supplemental/Supplementary General Conditions apply to these Instructions to Bidders.

1.2 The Contract Documents (Drawings, Specifications, Bid Manual, etc.) shall also serve as the bidding documents.

1.3 An "Alternate Bid" or "Alternate" is an amount stated in the proposal to be added to or deducted from the amount of the base bid if the corresponding change in the Work, as described in the Contract Documents, is accepted.

ARTICLE 2. BIDDERS' REPRESENTATIONS

2.1 It is understood and mutually agreed that by submitting a bid the bidder acknowledges that he has carefully examined all documents pertaining to the work and has visited the site to become familiar with, the location, accessibility and general character of the site of the work and all existing buildings and structures within and adjacent to the site, and has satisfied himself as to the nature of the work, the condition of existing buildings and structures, the conformation of the ground, the character, quality and quantity of the material to be encountered, the character of the equipment, machinery, plant and any other facilities needed preliminary to and during prosecution of the work, the general and local conditions, laws, ordinances, codes, rules and regulations, the construction hazards, and all other matters, including, but not limited to, the labor situation which can in any way affect the work under the contract, and including all safety measures required by the Occupational Safety and Health Act of 1970 and all rules and regulation issued pursuant thereto. Further, that the bidder has studied and carefully correlated its observation with the Contract Documents in preparing the pricing.

2.2 Reference is made to Contract Documents for the identification of those surveys and investigation reports of subsurface or latent physical condition at the site or otherwise affecting performance of the work which have been relied upon by the designer in preparing the document. The Owner will make copies of all such surveys and reports available to the bidder through the construction manager upon request. Unless otherwise specified in the Bid Documents, borings, test excavations and other subsurface information, if any, are provided solely to share information and any use of, or reliance upon, such items by the Bidder is at the risk of the Bidder. The Bidder shall be afforded access to the Project site to obtain the Bidder's own borings, test excavations and other subsurface information upon request made to the Construction Manager.

2.3 Each bidder may, at his own expense, make such additional surveys and investigations as may deem necessary to determine his bid price for the performance of the work. Any on-site investigation shall be done at the convenience of the Owner. Any reasonable request for access to the site will be honored by the Owner.

2.4 By submitting a bid, each bidder represents that its bid is based upon the personnel, materials, systems, and equipment required by the Contract Documents without exception and that it has sufficient personnel, materials, systems, and equipment available to complete the Work as and when specified or required**. The Bidder acknowledges that it has thoroughly reviewed all Bid Document information for the Project and that it is intimately familiar with such information. Bidder acknowledges that the Construction Manager is relying on the Bidder's review of all Bid Document information to be "biddable" and "buildable" and otherwise fully adequate to account all work, labor, and materials required for the completion of the Project.**

ARTICLE 3. INTERPRETATION OR CORRECTION OF THE CONTRACT DOCUMENTS

3.1 Should bidders find any discrepancies in, or omission from, ambiguity, inconsistency, or error, in the drawings or documents, or should bidder be in doubt as to their meaning upon examination of the Contract Documents or of the Project Site and local conditions, bidder shall at once notify the Construction Manager who will confer with the Designers and will send written instructions in the form of addenda to all bidders.

3.2 Bidders requiring, clarification or interpretation of the Contract Documents must submit a written request to the Construction Manager at least Ten (10) days prior to the date for receipt of bids.

3.3. All interpretations, corrections, or changes of the Contract Documents will be made by Addendum. Interpretations, corrections, or changes of the Contract Documents made in any other manner are not binding, and no bidder may rely upon such interpretations, corrections, or changes.

3.4. Any addenda to specifications issued during the time of bidding are to be considered covered in the proposal and in closing a contract they will become a part thereof. It shall be the bidder's responsibility to ascertain prior to bid time the addenda issued and to see that his bid includes any changes thereby required.

3.5. All addenda shall be acknowledged by the bidder(s) on the Form of Proposal.

ARTICLE 4. SUBSTITUTIONS

4.1 In accordance with the provisions of G.S. 133-3, material, product, or equipment substitutions proposed by the bidders to those specified herein can only be considered during the bidding phase until **ten (10)** days prior to the receipt of bids when submitted to the Construction Manager for review and forwarding to the Designer with sufficient data to confirm material, product, or equipment equality. Proposed substitutions submitted after this time will be considered only as potential change order.

4.2 Submittals for proposed substitutions shall include the following information:

a. Name, address and telephone number of manufacturer and supplier as appropriate.

b. Trade name, model or catalog designation.

c. Product data including performance and test data, reference standards, and technical descriptions of material, product, or equipment. Include color samples and samples of available finishes as appropriate.

d. Detailed comparison with specified products including performance capabilities, warranties, and test results.

e. Other pertinent data including data requested by the CM @ Risk or Designer to confirm product equality.

4.3.1 If the Construction Manager and Designer approve a proposed substitution, the Construction Manager will set forth the substitution in an Addendum to all bidders of record. If such approval is provided, the Bidder shall be responsible for any and all domino impacts attributable to such substitution if incurred during the course of the project's construction duration.

4.3.2 A completed Substitution Request Form (attached under "Section 1-General Information within Project Bid Manual) is required to be submitted to the Construction Manager by the party proposing any substitution for the review of all requests for substitution.

ARTICLE 5. PREPARATION AND SUBMISSION OF BIDS

5.1 All bids must be prepared on the Form of Proposal provided herein and must be submitted in accordance with the Instructions to Bidders.

Any modification to the Form of Proposal (including alternates and/or unit prices or qualifications) will disqualify the bid and may cause the bid to be rejected.

5.2 All blank spaces for bids, alternates, and unit prices applicable to bidder's work in the Bid Form must be filled in order for the bid to be accepted. When alternates requested are not bid, the proposal may be considered incomplete. The bidder agrees that bid on Form of Proposal detached from specification will be considered and will have the same force and effect as if attached thereto. Email proposals will not be considered. Numbers shall be stated both in writing and in figures for the base bids and alternates. All words and figures must be in ink or typed. **If a bid items has NO value or results in a NO CHANGE adjustment then the bidder must use "$0" in the blank. Use of a "N/C" (no change), or "NIC" (not in contract), may render the bid "non-responsive".**

5.3 The bidder shall fill in the Form of Proposal as follows;

a. Each bid must give the full business address of the bidder.

b. If the documents are executed by a sole owner, the fact shall be evidenced by the word "Owner" appearing after the name of the person executing them.

c. If the documents are executed by a partnership, that fact shall be evidenced by the word "Co-Partner" appearing after the name of the partner executing them.

d. If the documents are executed on the part of a corporation, they shall be executed by either the president or the vice president and attested by the secretary or assistant secretary in either case, and the title of the office of such persons shall appear after their signatures. The seal of the corporation shall be impressed on each signature page of the documents.

e. If the proposal is made by a joint venture, each member of the joint venture in the above form shall execute it for sole owner, partnership or corporation, whichever form is applicable.

f. **All signatures shall be properly witnessed.**

g. If a person other than an owner holds the contractor's license of a bidder, partner or officer of a firm, then the licensee shall also sign and be a party to the proposal. The title "Licensee" shall appear under his/her signature.

5.4 The Bidder shall price the Work to include all labor, material, equipment, supervision, administration and management (home office and field), scheduling, quality control, testing and inspection, training, transportation of manpower and materials and equipment, information technology, consumables, applicable taxes, required fees and permits, daily clean-up and daily safety, and whatever else is deemed necessary to complete the Work.

5.4 Bidders must provide amounts on the Unit Price Schedule for labor, material, equipment, supervision, general conditions, overhead, fee, and preparation of performance and payment bond costs of all work items. The quantities listed in the Bid Form for unit price items are to be considered as approximate and are to be used only for the comparison of the bids and as a basis for computing amounts of security or penal sums of bonds to be furnished. Payments will only be for the actual quantities of the Work performed and accepted or materials furnished and accepted in accordance with the Contract Documents. The scheduled quantities of Work to be done and material to be furnished may each be increased, decreased, or omitted as provided in the Contract Documents.

5.5 The inclusion of a Unit Price Schedule, including unit prices for labor, materials and equipment, in the bid is for informational purposes only and shall in no way obligate the Construction Manager or Owner to pay the unit rates provided in the Unit Price Schedule for any additional work performed pursuant to a modification should the bidder be awarded the Subcontract. The Construction Manager may agree to pay unit rates included in the Unit Price Schedule, or agree to pay adjusted unit rates reflecting the bidder's actual costs, after review

by the Construction Manager and Owner and receipt by the bidder of written approval from the Construction Manager for the use of approved rates.

5.6 The completed bid shall be placed in a sealed opaque envelope so marked as to indicate: "Proposal/Bid", the identity of the Project (name of Project), the respective Bid package Number and Name, the name and address of the bidder and License number of the bidder. Bidders must clearly mark on the outside of the envelope which Bid Package(s) they are bidding. Bids must be received at the location as designated on the Notice to Bidders, by the specified time and date. Bids must be submitted directly to the Construction Manager Representative. If forwarded by mail or express courier, the envelope containing the proposal must be placed in another envelope which shall be sealed and addressed to the location(s) as designated on the Notice to Bidders. The bidder uses the mail or courier service at its own risk. Bids received after the advertised time for opening of bids will be returned to the bidder unopened.

5.7 Bidder shall identify in the bid form, the minority businesses that will be utilized on the project with corresponding total dollar value of the bid and affidavit (Affidavit A) listing good faith efforts or an affidavit (Affidavit B) indicating work under contract will be self-performed, as required by G.S. 143-128.2(c) and G.S. 143-128.2(f). Failure to comply with these requirements is grounds for rejection of the bid.

5.8 Bids will be opened and read aloud at the specified time and location indicated in the advertisement.

ARTICLE 6. QUALIFICATION OF BIDDERS

6.1 Within three days (72) hours after the bid time, any bidder to whom the award of the contract might be considered must submit to the Construction Manager a properly executed State of North Carolina – Affidavit C Portion of the Work to Performed by Minority Firms, and/or Affidavit D – Good Faith Efforts in the form included in the Project Bid Manual.

ARTICLE 7. Not Used

ARTICLE 8. FORM OF BID FORM

8.1 The Form of Proposal is included in the Project Bid Manual for reference only. **Specific Bid Proposal Forms will be supplied by the Construction Manager for each bid package.**

8.2 Form of Bonds are included in the sample contract form. Subcontracts are required to use the forms provided. Surety firm executing the bonds must be a Class "A" or better rated bonding firm as ranked by A.M. Best and be registered with the State of North Carolina department of insurance. **Any packages over $300,000.00 MUST include a Bid Bond.**

8.3 Construction Manager at its sole discretion may choose to include any subcontractor in a SubGuard Insurance program in lieu of requesting a Payment and Performance Bond. Subcontractors included in the program may be required to submit additional confidential financial information for review by the Construction Manager prior to enrollment in the program.

8.4 If the Construction Manager elects to enroll the subcontractor in the SubGuard Program the Construction Manager will deduct the full amount listed on the bid form by the Subcontractor for the Payment and Performance Bonds.

ARTICLE 9. Not Used

ARTICLE 10 AWARD OF CONTRACT

10.1 Subject to the right of the Construction Manager & Owner to reject any or all bids, the Construction Manager will award the Subcontract to the bidder deemed by the Construction Manager & Owner in their sole discretion to be the lowest responsive and responsible bidder. In determining which bidder is the lowest responsive and responsible, the Construction Manager & Owner, in their discretion, may take into

consideration not only the amount of the bid, but also such of the following criteria as it deems appropriate and may give such weight thereto as it deems appropriate:

10.1.1 The bidder's financial ability to complete the Subcontract successfully and on time without resort to its surety;

10.1.2 The bidder's prior experience with comparable or more complex projects;

10.1.3 The bidder's prior history for successful and timely completion of projects;

10.1.4 The bidder's equipment and facilities;

10.1.5 The adequacy, in numbers and experience, of the bidder's work force to complete the Contract successfully and on time;

10.1.6 The bidder's prior experience on other projects of the Construction Manager & Owner, including the bidder's demonstrated ability to complete its work in accordance with the requirements of the contract documents;

10.1.7 The bidder's compliance with federal, state, and local laws, rules, and regulations, including but not limited to equal employment opportunity requirements and the Occupational Safety and Health Act.

10.1.8 The bidder's demonstrated commitment to achieve the Contract HUB/MWBE/SDMWOB goals or its good-faith effort to meet those goals.

10.1.9 Depending on the type of the Work, other factors which the Construction Manager & Owner considers material.

10.2 In determining the lowest responsible, responsive bidder, the Construction Manager & Owner shall take into consideration the bidder's compliance with the requirements of G.S. 143-128.2(c), the past performance of the bidder on construction contracts for the Construction Manager & Owner with particular concern given to completion times, quality of work, cooperation with other contractors, and cooperation with the Designer and Owner. Failure of the low bidder to furnish affidavit and/or documentation as required by G.S. 143-128.2(c) may constitute a basis for disqualification of the bid.

10.3 The Construction Manager & Owner reserve the right to waive any informality or irregularity in bids when such waiver is in the Owner's interest.

10.4 Each Low Bidder shall submit a post bid list of any and all subcontractors and identify all small disadvantaged minority & women-owned business contacted for quotes and an indication of whether each such subcontractor's quote was accepted or rejected for use on the Project. If a subcontractor's quote is accepted, the bidder is required to use that subcontractor to perform the Work unless otherwise approved in writing by the Construction Manager & Owner. The Owner reserves the right to reject any or all proposed subcontractor(s) listed thereon before the bid is awarded. In such event the Construction Manager & Owner will give the bidder an opportunity to either withdraw the bid or substitute subcontractor(s) who is acceptable to the Construction Manager & Owner, provided such substitution does not change the amount of the bid.

10.5 At the request of the Construction Manager and before any contract is awarded, the bidder may be required to furnish a complete statement of the origin, composition, and manufacturer of any or all materials to be used in the construction of the Work, together with samples. Such samples may be subjected to the tests provided for in the Contract Documents to determine their quality and fitness for the Work.

10.6 At the request of the Construction Manager and before any contract is awarded, the bidder may be required to furnish the Construction Manager with a complete breakdown of the lump sum bid items to the satisfaction of the Construction Manager & Owner. The lump sum breakdown shall be in such detail as the Construction Manager & Owner may reasonably require.

10.7 The Construction Manager & Owner reserves the right to issue subcontracts to the selected bidder at any time up to **one hundred twenty (120) days** after the receipt of bids. The bidder must sign and return the Agreement within **ten (10) days** of receiving it. Failure to do so will be considered as refusal on the part of the selected bidder to enter into the Agreement. Upon such refusal, the Construction Manager & Owner may award the Contract to the next qualified bidder, at the Construction Manager & Owner's option, with the initially selected bidder's bid guaranty being retained as provided by law.

10.8 Should the Construction Manager & Owner adjudge that the apparent low bidder is not the lowest responsible, responsive bidder by virtue of the above information, said apparent low bidder will be so notified and his bid security shall be returned.

ARTICLE 11. MINORITY BUSINESS CONTRACT PROVISIONS (CONSTRUCTION)

11.1 MINORITY BUSINESS SUBCONTRACT GOALS:

The goals for participation by minority firms as subcontracts on this project have been set at **10%**.

The bidder must identify on its bid, the minority businesses that will be utilized on the project with corresponding total dollar value of the bid and (Affidavit A) listing good faith efforts **or** affidavit (Affidavit B) of self-performance of work, if the bidder will perform work under contract by its own workforce.

a. The lowest responsible, responsive bidder must provide Affidavit C, which includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the applicable goal **or** provide Affidavit D that includes a description of the portion of work to be executed by small disadvantaged minority & women-owned businesses, expressed as a percentage of the total contract price, with documentation of Good Faith Effort, if the percentage is not equal to the applicable goal.

The above information must be provided as required. Failure to submit these documents is grounds for rejection of the bid.

11.2 MINIMUM COMPLIANCE REQUIREMENTS:

All written statements, affidavits or intentions made by the Bidder shall become a part of the agreement between the Subcontractor and the Construction Manager for performance of this contract. Failure to comply with any of these statements, affidavits or intentions or with the minority business Guidelines shall constitute a breach of the contract. A finding by the Construction Manager or Owner that any information submitted either prior to award of the contract or during the performance of the contract is inaccurate, false or incomplete, shall also constitute a breach of the subcontract. Any such breach may result in termination of the subcontract in accordance with the termination provisions contained in the contract. It shall be solely at the option of the Construction Manager & Owner whether to terminate the contract for breach.

In determining whether a contractor has made good faith efforts, the Construction Manager will evaluate all efforts made by the Contractor and will determine compliance in regard to quantity, intensity, and results of these efforts. The Construction Manager may take into account any or all of the following:

1. Whether the Bidder attended any prebid meetings that were scheduled by the Construction Manager;

2. Whether the Bidder advertised in general circulation, trade association, and minority-focus media concerning the subcontracting opportunities;

3. Whether the Bidder provided written notice to a minimum of three SDMWOB's of each portion of the work subcontracted, that their interest in the contract was being solicited in sufficient time to allow the MWBE's to participate effectively;

4. Whether the Bidder followed up initial solicitations of interest by contacting SDMWOB's to determine with certainty whether the SDMWOB's were interested;

5. Whether the Bidder selected portions of the work to be performed by SDMWOB's in order to increase the likelihood of meeting SDMWOB goals (including, where appropriate, breaking down contracts into economically feasible units to facilitate MWBE participation);

6. Whether the Bidder provided interested SDMWOB's with adequate information about the plans, specifications and requirements of the contract;

Whether the Bidder negotiated in good faith with interested SDMWOB's, not rejecting SDMWOB's as unqualified without sound reasons based on a thorough investigation of their capabilities.

11.3 Minority participation shall be credited toward the Subcontractor's achievement of the Minority Goal and good-faith efforts only after payments are actually made by the Subcontractor to Minority Subcontractors as recorded by Appendix 'E' - SDMWOB Documentation for Contract Payment Affidavit. Each Subcontractor shall maintain records and documents of payments to SDMWOB Subcontractors for a minimum of "three years following final acceptance of the Project by the Owner. Records shall be made available by the Subcontractor for inspection upon request by any authorized representative of the Construction Manager. The Subcontractor shall include similar reporting requirements in any Sub-subcontract with any certified SDMWOB Sub-subcontractors.

ARTICLE 12. WITHDRAWAL OF BIDS

12.1 A bidder may withdraw a bid only by submitting a written request to the Owner prior to the time fixed for the opening of bids.

12.2 Except as otherwise provided by law or in any supplement to these Instructions to Bidders, no bidder is permitted to modify, withdraw, or cancel its bid or any part thereof for **one hundred twenty (120)** days after the time fixed of the opening of bids.

ARTICLE 13. REJECTION OF BIDS

13.1 The bidder acknowledges the Owner's right to reject any and all bids and to waive any informality or irregularity in any bid received. In addition, the bidder recognizes the Owner's right to reject a bid if the bidder fails to submit the data required by the bid documents or if the bid is irregular or incomplete in any way or if for any reason the Owner considers being in its best interest to reject the bid.

ARTICLE 14. PRE-BID CONFERENCE:

14.1 Prior to the date set for receiving bids, the Construction Manager will arrange and conduct a Pre-Bid Conference for all prequalified bidders. The purpose of this conference is to review project requirements and to respond to questions from prequalified bidders and their subcontractors or material suppliers related to the intent of bid documents. Attendance by prequalified bidders shall be **strongly encouraged** as noted by the "Notice to Bidders".

14.2 The agenda for the Pre-Bid Conference will include project team introductions, project overview, explanation of project involvement expectations, review of project procedures, review of bidding procedures, review of bid documents and bid form, review of project schedule milestone dates, review of project procedures and site utilization/logistics, contract work scope(s), safety, and address bidder questions.

14.3 The Construction Manager will prepare minutes of the pre-bid meeting and provide them to Bidders in the form of a Supplement to the Bid Documents. Failure of the Bidder to attend the pre-bid conference, or to obtain, review and act on the minutes thereof, which results in the Bidder not being fully acquainted with the requirements of the Project, will not be considered as a basis for additional compensation.

END OF SECTION

BARNHILL CONTRACTING COMPANY

REQUEST FOR INFORMATION

RFI Number:

Project: Trask Middle School Renovations No: 1102018

Location: _____

Request Date: _____

Response Needed By: _____

Subject: _____

From: _____

Contract For: _____

Subcontract For: _____

To: _____

Attn: _____

Project Implications: Cost ☐ Time ☐ Information Only x

Reference: Drawing Number: _____ Detail Number: _____ Specification Volume/Section: _____

Information Needed:

1.
2.
3.
4.

Contractor Recommendation:

Submitted by: _____ Date: _____

Response: ☐ Proceed with recommendation ☐ Proceed with the following instructions:

_____ Date: _____

Architect/Engineer's Signature

cc: BCC Project w/File

BARNHILL CONTRACTING COMPANY

Substitution Request Form

Submit to Barnhill on Supplier/Trade/Subcontractor Company Letterhead

Date: _____ Request No.: _____

Project: _____

We hereby submit for your consideration the following product instead of the specified item for the above project:

Section	Paragraph	Specified Item Description

Proposed Substitution:

Attach complete technical data including laboratory tests if applicable. ☐ **YES** ☐ **NO**

Include complete information detailing changes to Drawings and/or Specifications which proposed substitution will require for proper installation. Complete all blanks below:

A. Does the substitution affect dimensions shown on Drawings? ☐ **YES** ☐ **NO**

If YES, explain:

B. Will substitution have impact on other trades? ☐ **YES** ☐ **NO**

If YES, explain:

C. Differences between proposed/specified item? ☐ **YES** ☐ **NO**

If YES, explain:

D. Substitute product(s) have/has been reviewed to ensure all are compatible for installation in accordance with project requirements? ☐ **YES** ☐ **NO**

If NO, explain:

E. Manufacturer's guarantees of proposed/specified items meet specifications? ☐ **YES** ☐ **NO**

If NO, explain:

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F. Will substitution have impact on project schedule? ☐ **YES** ☐ **NO**

If YES, explain:

G. Savings or Credit to the project for accepting substitution?

$

Provide calculation of how credit or savings was determined:	

H. The undersigned agrees to pay all associated costs for changes to building design (including engineering and detailing costs) and impact to other trades (if any) caused by substitution? ☐ **YES** ☐ **NO**

If NO, explain:

The undersigned states that the function, appearance and quality are equivalent or superior to the specified item.

Submitted By: _____
Company Name, Address

_____ Date: _____
Signature

_____
Contact Number

For Internal Barnhill Use Only

Barnhill Review Completed by: _____ Date: _____

☐ Approved to Submit to Design Professional
☐ Additional Details/Information Required
☐ Not Approved/Rejected

Comment:

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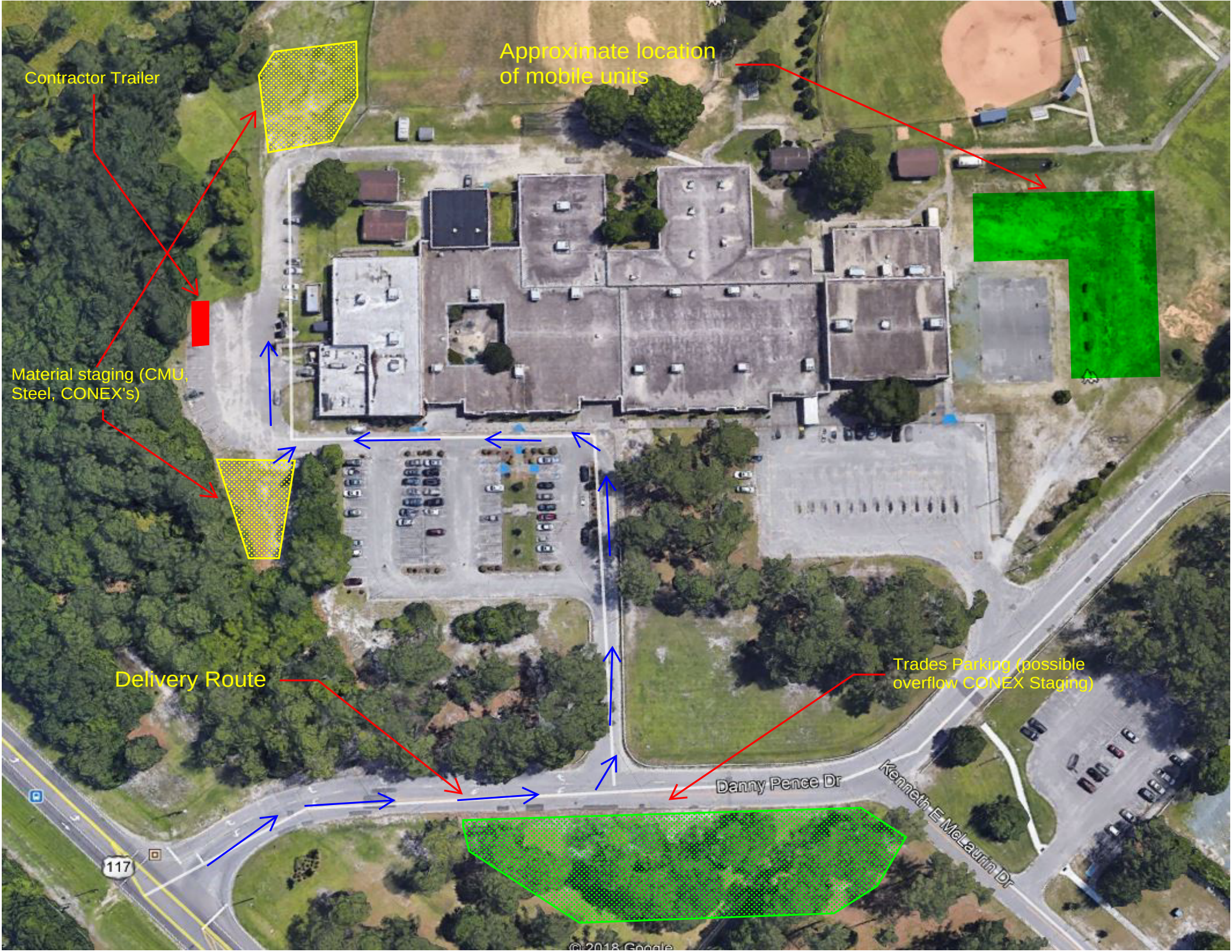
Contractor Trailer
Approximate location of mobile units
Material staging (CMU, Steel, CONEX's)
Delivery Route
Trades Parking (possible overflow CONEX Staging)
Danny Pence Dr
Kenneth E McLaurin Dr
117
© 2018 Google

1st Summer Abatement & Permanent Flooring

1st Summer Abatement & Temporary Flooring

1st Summer Abatement & School Year work/Permanent Flooring

2nd Summer Abatement & Permanent Flooring

This is a Hybrid drawing, meaning it has the Original Admin and Locker Room Areas imposed onto the new layout to demonstrate specifically the areas requiring abatement.

This bathroom has to be done 2nd Summer due to Hot Water/Hand Washing

Bathroom Reno - School Year
Phase 1 - Boys 207; Girls 206
Phase 2 - Boys 603; Girls 604
Phase 3 - Boys 713; Girls 715
Phase 4 - Boys 202; Girls 203

Bathroom Reno - 2nd Summer
Phase 5 - Toilet 400A
Phase 6 - Toilet 111; 112
Phase 7 - Toilet 803 & Surrounding Rms
Phase 8 - 802/805 Toilets & Showers
(Phase 8 as part of Alternate G-2 Athletic Support Space Reno)

Phase 1A - Science Wing Reno
June 19 - Sept 19

Phase 1B - Courtyard Reno
June 19 - Sept 19

Phase 2 - 700 Wing Classroom Reno
Oct 19 - April 20

SCHOOL YEAR 19-20 MISC ITEMS
- HVAC Improvements
- Roof Repair
- Repair/Replace Fire/Ent Doors
- Full Window Replacement
- Replace PA System
- Upgrade Computer Cabling
- Replace Light Fixtures with LED
- Replace Emer/Ext Lighting
- ACT Replacement
- Waterproof Ext Masonry
- Replace Bleacher (Outside Sport Season)

5 A1.0 Floor Plan
Scale: 1/16" = 1'-0"

Notes
1.Dimensions are to the face of framework to face of framework.

Wall Legend	
	Existing 8" CMU and 4" Brick Veneer.
	Existing 12 CMU.
	Existing 8" CMU.
	New 8" CMU wall.
	New 6" Metal Stud Wall.

Plan North

North

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0710
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NC: C-1585
FL: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
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Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE 4075 NORTH CAROLINA WILMINGTON, NC

NOT FOR CONSTRUCTION

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

Design Development Drawings
September 17, 2018

Revisions:

Floor Plan

A1.0

of

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Abatement Phasing Plan

Monday June 17, 2019 1st day of work
Tuesday Aug 20, 2019 Last day 1st Summer

		1st Summer Abatement	1st Summer Abatement & Selective Demo	1st Summer Permanent VCT	1st Summer Temp Flooring	School Year Minor Abatement	2nd Summer Abatement
Cafeteria Area							
300	Cafeteria	X		X			
300A	Platform	X		X			
302	Choral	X		X			
302A	Office	X		X			
303	Break	X		X			
304	MH/DSS Office	X		X			
305	ISS Classroom	X		X			
306	Office	X		X			
306A	Work	X		X			
307A	Storage	X		X			
H3	Hall	X		X			
H4	Hall	X		X			
Second Floor		X		X			
2300	Virtual Office	X		X			
2301	PT/OT Office	X		X			
2302	Storage	X		X			
2303	ST Office	X		X			
2304	Band Office	X		X			
H?	2nd Fl Hallway	X		X			
Former Weightroom Area							
712	Weight Room	x			x		
716	Classroom	x			x		

Abatement Phasing Plan

Monday June 17, 2019 1st day of work
Tuesday Aug 20, 2019 Last day 1st Summer

		1st Summer Abatement	1st Summer Abatement & Selective Demo	1st Summer Permanent VCT	1st Summer Temp Flooring	School Year Minor Abatement	2nd Summer Abatement
Admin Area							
A1	Clinic	X			X		
A2	Social Work	X			X		
A16	Ast Principal	X			X		
??	File Storage	X			X		
Locker Room Area							
03A	Office	x			x		
P5A	Office	x			x		
H?	Hall by Offices	x			x		
P11	Storage	x			x		
Science Wing							
500	Science		X				
500A	Storage		X				
501	Science		X				
501A	Storage		X				
502	Science		X				
503	Science		X				
504	Art		X				
504A	Storage		X				
504B	Storage		X				
505	Science		X				
505A	Storage		X				
401	Computer Lab		x				

Abatement Phasing Plan

Monday June 17, 2019 1st day of work
Tuesday Aug 20, 2019 Last day 1st Summer

		1st Summer Abatement	1st Summer Abatement & Selective Demo	1st Summer Permanent VCT	1st Summer Temp Flooring	School Year Minor Abatement	2nd Summer Abatement
700 Series Wing							
700	Classroom	X			X	x	
701	Classroom	X			X	x	
702	Classroom	X			X	x	
703	Classroom	X			X	x	
704	Classroom	X			X	x	
705	Classroom	X			X	x	
706	Classroom	X			X	x	
707	Classroom	X			X	x	
708	Classroom	X			X	x	
709	Classroom	X			X	x	
717	Classroom	X			X	x	
718	Classroom	X			X	x	
719	Classroom	X			X	x	
720	Classroom	X			X	x	
721	Classroom	X			X	x	
Gymnasium Area							
H17	Hall (Gym W)						X
H18	Hall (Gym E)						X
Special Education Area							
400	Special Ed						X
400B	Group						X

Work Item/Area	Approximate Dates	Notes
Cafeteria Area	June 2019 - August 2019	Permanent VCT would go back prior to school starting
Science Wing	June 2019 - September 2019	
Courtyard Area	June 2019 - September 2019	Temp wall would be installed in Media Center prior to school starting
Trailer Setup	July/Aug 2019 - September 2019	
700 Series Wing	October 2019 - April 2020	These 15 Classrooms move to Trailers
Admin Area	December 2019 - February 2020	Start as Christmas Break Starts; Complete and move back up to Reception Area
Admin New Entrance	Feb/March 2020 - August 2020	Recption, Vestibule, Lobby space
Media Center	June 2020 - August 2020	
Gymnasium Area	June 2020 - August 2020	Second Summer to allow for furniture storage Summer 19
Special Ed Area	June 2020 - August 2020	Second Summer so no distruptions to these students
Former Weightroom Area	April 2020 - August 2020	Utilize the trailers for this as 700 Series moves back into Reno space
Locker Room Area	April 2020 - August 2020	Utilize the trailers for this as 700 Series moves back into Reno space

PROJECT CONTRACT DOCUMENTS

ARTICLE 1 - GENERAL

1. Attached is a list of drawings pertinent to the Work related to the Agreement. The actual Drawings are attached under separate cover, to this Agreement. The attached Drawings depict all the scope of work to be performed pursuant to the completion of the Project, including work to be performed by other contractors, which is shown for information and coordination purposes.

2. It is intended that the latest revision of each drawing shall be applicable, and all previous revisions shall be superseded as a result.

Subcontractor is responsible for a **comprehensive review** of **ALL** drawings as scope responsibilities may be included throughout the set, and may not be specific to a certain set (i.e.: Electrical).

ARTICLE 2 - DRAWING LIST

G1.0	Cover, Index, Legend, Abbreviations
G2.0	Appendix B
G2.1	Work Areas
G2.2	Life Safety Plan Fire Areas
G2.3	Life Safety Plan Fire Barriers
G2.4	Life Safety Plan Occupancy Calculations
G2.5	UL Assemblies
C1.0	Existing Conditions and Demolition Plan
C2.0	Staking and Pavement Marking Plan
C3.0	Grading Plan
C4.0	Erosion Control Plan
C5.0	Utility Plan
C6.0	Landscape Plan
C7.1	Site Details
C7.2	Site Details
C7.3	Site Details
C7.4	Site Details
C7.5	Site Details
C7.6	Site Details
AD1.0	Demolition Plan
AD2.0	Building Elevations Demolition
A1.0	Floor Plan
A1.1	Partial Floor Plans
A1.2	Partial Floor Plans
A1.3	Reflected Ceiling Plan
A1.3.1	Wall Plan Above Ceiling
A1.4	Architectural Roof Plan
A2.0	Building Elevations
A2.1	Partial Building Sections
A2.2	Partial Building Sections
A2.3	Partial Building Sections
A3.0	Wall Sections
A3.1	Wall Sections
A3.2	Wall Sections

A3.3	Wall Sections
A4.0	Enlarged Plans
A4.1	Enlarged Plans
A5.0	Details
A5.1	Details
A5.2	Details
A6.0	Finish & Door Schedules; Signage Details
A6.1	Door & Window Elevations
A6.2	Window Elevations
A7.0	Casework Elevations
A7.1	Casework Sections
A7.2	Casework Sections
A7.3	Interior Details
A7.4	Finished Floor Plan
AM1.0	Modular Classroom
R1.0	Roof Plan
R1.1	Roof Details
S1.01	General Notes
S1.02	Typical Details
S1.03	Material Inspections & Special Inspections For Wind & Seismic
S2.01	Foundation and Slab Plan
S2.02A	Roof Framing Plan
S2.02B	Roof Framing Plan
S2.03	Foundation and Slab Plan
S3.01	Foundation Sections & Details
S4.01	Framing Sections and Details
P0.1	Plumbing Legend, Schedules, & Details
P0.2	Plumbing UL Details
PD1.1	Plumbing Demolition Floor Plan
PD4.1	Enlarged Group Restrooms Domestic Water
PD4.2	Enlarged Group Restrooms Waste & Vent
PD4.3	Enlarged Science Wing Plans
PD4.4	Enlarged Miscellaneous Plans
PD4.5	Enlarged Locker Room Plans
P1.1	Plumbing Renovation Floor Plan
P1.2	Plumbing Roof Plan
P4.1	Enlarged Group Restrooms Domestic Water
P4.2	Enlarged Group Restrooms Waste & Vent
P4.3	Enlarged Science Wing Plans
P4.4	Enlarged Miscellaneous Plans
P4.5	Enlarged Locker Room Plans
M0.1	Mechanical Legend General Notes Schedules and Details
M0.2	Mechanical Details
MD1.0	Mechanical Floor Plan – Area A - Demolition
MD1.1	Mechanical Floor Plan – Area B - Demolition
MD1.2	Mechanical Floor Plan – Area C - Demolition
MD1.3	Mechanical Floor Plan – Area D - Demolition
MD2.0	Mechanical Roof Plan Demolition
M1.0	Mechanical Floor Plan – Area A - Renovation

M1.1	Mechanical Floor Plan – Area B - Renovation
M1.2	Mechanical Floor Plan – Area C - Renovation
M1.3	Mechanical Floor Plan – Area D - Renovation
M2.0	Mechanical Roof Plan Renovation
M3.0	Mechanical Schedules
M4.0	Mechanical Control Diagrams
M4.1	Mechanical Control Diagrams
E0.1	Electrical Notes, Details, Abbreviations
E0.2	Electrical Legends
ED1.1	Electrical Demolition Plan – Area A
ED1.2	Electrical Demolition Plan – Area B
ED1.3	Electrical Demolition Plan – Area C
ED1.4	Electrical Demolition Plan – Area D
E1.11	Electrical Power Plan – Area A
E1.12	Electrical Power Plan – Area B
E1.13	Electrical Power Plan – Area C
E1.14	Electrical Power Plan – Area D
E1.15	Electrical Roof Plan
E1.21	Electrical Lighting Plan – Area A
E1.22	Electrical Lighting Plan – Area B
E1.23	Electrical Lighting Plan – Area C
E1.24	Electrical Lighting Plan – Area D
E1.31	Electrical Auxiliary Systems Plan – Area A
E1.32	Electrical Auxiliary Systems Plan – Area B
E1.33	Electrical Auxiliary Systems Plan – Area C
E1.34	Electrical Auxiliary Systems Plan – Area D
E1.41	Electrical Mobile Classrooms Site Plan
E1.42	Electrical Mobile Classrooms Plan
E5.1	Electrical Details
E5.2	Electrical Details
E5.3	Electrical Details
E5.4	Electrical Details
E6.1	Electrical Luminaire Schedule
E6.2	Electrical Panel Schedules
E6.3	Electrical Panel Schedules
E7.1	Electrical Demolition Work Power Riser
E7.2	Electrical New Work Power Riser
E7.3	Electrical Risers

END OF SECTION

PROJECT SPECIFICATIONS

ARTICLE 1 - GENERAL

The following section (Article 2 - Specifications) contains, as a supplement under separate cover, the Specifications pertinent to the Work related to this Agreement.

It is intended that the latest revision of each drawing and specification section(s) shall be applicable, and all previous revisions shall be superseded as a result.

ARTICLE 2 - SPECIFICATIONS

1. As noted on Drawings and indicated in the Specifications dated March 27, 2019 entitled "Project Manuel".

2. Specifications Issue Date: 03-27-19

Design Professional: Sawyer Sherwood & Associate, P.C.
124 Market Street
Wilmington, NC 28401

**See Project Directory for Design Team listing.

ARTICLE 2.1 - SPECIFICATIONS LIST

Specifications:

DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

00 0110 Table of Contents

DIVISION 01 – GENERAL REQUIREMENTS

01 1000 Summary
01 2300 Alternates
01 3000 Administrative Requirements
01 4000 Quality Requirements
01 4533 Special Inspections
01 5813 Temporary Project Signage
01 6000 Project Requirements
01 7000 Execution and Closeout Requirements
01 7800 Closeout Submittals
01 7900 Demonstration and Training

DIVISION 02 – EXISTING CONDITIONS

02 4100 Demolition

DIVISION 03 – CONCRETE

03 3000 Cast-In-Place Concrete

DIVISION 04 – MASONRY

04 0100 Maintenance of Masonry
04 2000 Unit Masonry

DIVISION 05 – METALS

05 1200 Structural Steel
05 1213 Architecturally Exposed Structural Steel Framing
05 3100 Steel Decking
05 4000 Cold-Formed Metal Framing

DIVISION 06 – WOOD, PLASTICS, & COMPOSITES

06 0100 Rough Carpentry
06 4100 Architectural Wood Casework

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

07 0150 Preparation for Reroofing
07 1900 Water Repellents
07 2100 Insulation
07 2123 Loose-Fill Insulation
07 2216 Roof Insulation
07 2500 Weather Barriers
07 4213 Metal Wall Panels
07 4646 Fiber-Cement Siding
07 5400 Thermoplastic Single-Ply Roofing
07 6200 Sheet Metal Flashing and Trim
07 8400 Firestopping
07 9200 Joint Sealants

DIVISION 08 – OPENINGS

08 1213 Hollow Metal Frames
08 1416 Flush Wood Doors
08 4313 Aluminum-Framed Storefronts
08 4435 Protective Framed Glazing Assemblies
08 7100 Door Hardware
08 8000 Glazing

DIVISION 09 – FINISHES

09 0561 Common Work Results for Flooring Preparation
09 2116 Gypsum Board Assemblies
09 3000 Tiling

09 5100	Acoustical Ceilings
09 6500	Resilient Flooring
09 6623	Resinous Matrix Terrazzo Flooring
09 6813	Tile Carpeting
09 8430	Sound-Absorbing Wall and Ceiling Units
09 9113	Exterior Painting
09 9123	Interior Painting

DIVISION 10 – SPECIALTIES

10 1101	Visual Display Boards
10 1400	Signage
10 2113.19	Plastic Toilet Compartments
10 2800	Toilet, Bath, and Laundry Accessories
10 4400	Fire Protection Specialties
10 5100	Lockers
10 6000	Wood Storage Shelving
10 7300	Protective Coverings

DIVISION 11 – EQUIPMENT

11 6623	Gymnasium Equipment

DIVISION 12 – FURNISHINGS

12 2400	Window Shades
12 3600	Countertops
12 4813	Entrance Floor Mats and Frames
12 6613	Telescopic Bleachers

DIVISION 13 – 21– NOT USED

DIVISION 22 – PLUMBING

22 0000	Plumbing
22 1400	Storm Drainage (Roofing)

DIVISION 23 – HEATING, VENTILATING, & AIR CONDITIONING

23 0130	Existing HVAC Air Distribution System Cleaning
23 0500	Heating and Air Conditioning
23 0913	Instrumentation Control Devices for HVAC
23 0923	DDC System for HVAC
23 0993	Sequences of Operation

DIVISION 24 – 25 NOT USED

DIVISION 26 – ELECTRICAL

26 0000	Electrical, Basics
26 0500	Basic Materials and Methods
26 0519	Conductors and Cables
26 0526	Grounding and Bonding
26 0533	Raceways and Boxes
26 0548	Seismic Controls for Electrical Systems
26 0553	Electrical Identification
26 0923	Lighting Control Devices
26 2200	Dry-Type Transformers (600V & LESS)
26 2413	Switchboards
26 2416	Panelboards
26 2726	Wiring Devices
26 4313	Surge Protective Devices
26 5119	LED Interior Lighting

DIVISION 27 – COMMUNICATIONS

27 0000	Communications – NHCS Design Guidelines for Division 270000
27 1100	Communications Equipment Room Fittings
27 1300	Communications Backbone Cabling
27 1500	Communications Horizontal Cabling
27 5116	Intercom/Public Address Systems
27 5123	Educational Intercommunications & Program Systems
27 5123.50	Educational Intercommunications & Program Systems – NHCS Design Guidelines

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

28 1300	Video Intercom & Access Control Systems
28 1600	Intrusion Detection
28 2300	Electronic Video Surveillance
28 2300A	Video Surveillance
28 3111	Digital Addressable Fire-Alarm System

DIVISION 31 – EARTHWORK

31 1000	Site Clearing
31 2000	Earth Moving
31 2500	Erosion & Sediment Controls
31 3116	Termite Control

DIVISION 32 – EXTERIOR IMPROVEMENTS

32 1216	Asphalt Paving
32 1313	Concrete Paving
32 1400	Unit Pavers

32 9000 Planting

DIVISION 33 – UTILITIES

33 1000 Water System
33 3000 Sanitary Sewerage
33 3200 Sewer Pump Station
33 4000 Storm Drainage Utilities

END OF SECTION

INSURANCE

ARTICLE 1 - POLICIES OF INSURANCE

Immediately upon receiving an order to proceed with the Project, Subcontractor shall, at his/her own expense, procure and maintain insurance from carriers approved by Construction Manager until the Project Completion Date specified in the Project Schedule, as provided in the Bid Default Schedule. Insurance Companies/Carriers utilized shall have a minimum rating of "A" or better and no smaller than "X" financial size as rated by the most current A M Best Rating Guide. All agents and brokers shall hold valid licenses from the State of North Carolina.

Subcontractor's insurance either shall cover, in addition to the Construction Manager and its affiliates, subcontractors, employees, agents, partners and consultants as additional insurers, or Subcontractor shall cause such third parties to procure and maintain equivalent coverage.

Subcontractor's insurance shall cover the Owner, its affiliates, employees, agents, partners, and consultants, as "additional insured".

Subcontractor's insurance shall be primary and non-contributing with respect to any other insurance carried by Construction Manager for operations related to the Project.

ARTICLE 1.1 - WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY

Statutory Workers' Compensation and Employer's Liability Insurance in compliance with the laws of the State of North Carolina & Applicable Federal.

E.L. Each Accident	$500,000
E.L. Disease – Each Employee	$500,000
E.L. Disease – Policy Limit	$500,000

If Subcontractor is self-insured, Subcontractor must submit evidence of insurance to the Construction Manager.

ARTICLE 1.2 - COMPREHENSIVE GENERAL LIABILITY

Comprehensive General Liability Insurance including, without limitation, premises and operations, contractual, independent contractors, broad form property damage, products and completed operations, with not less than the following limits:

Each Occurrence	$1,000,000
Damage to Rented Premises (Each Occurrence)	$100,000
Med Exp (Any one person)	$5,000
Personal & Adv Injury	$1,000,000
General Aggregate	$2,000,000
Products - Comp/Op Aggregate	$2,000,000

ARTICLE 1.3 - AUTOMOBILE LIABILITY

Automobile Liability, including any owned, non-owned, and hired cars and all other vehicles:

Combined Single limit (Each Accident)	$1,000,000

ARTICLE 1.4 - UMBRELLA EXCESS LIABILITY

Each Occurrence	$1,000,000
Aggregate	$1,000,000

ARTICLE 1.5 - ALL RISK

All Risk Insurance, including perils of earthquake and flood, with limits adequate to cover the value of the Work installed and materials while in transit and while stored at the Project Site, equipment, machinery, tools and supplies of any nature whatsoever, including buildings and temporary structures to be used, or incidental to the fabrication, erection, testing or completion of the Work.

ARTICLE 2 - CERTIFICATES

No later than **five (5) days** after receiving an order to proceed with the Project, Subcontractor shall furnish Construction Manager original certificates, in ACCORD form, from its insurance carriers showing that the insurances specified are in force, stating policy numbers, effective dates, expiration dates, and limits of liability thereunder. All policies providing the above insurance shall be endorsed to provide that the insurance company shall notify Construction Manager in writing **thirty (30) days** prior to any cancellation, change, or expiration of the above insurance. If Subcontractor is self-insured, evidence of self-insurance shall be provided.

ARTICLE 3 - RIGHT OF GENERAL CONTRACTOR

If Subcontractor fails to procure and maintain at least the above insurance with the minimum limits of liability shown, Construction Manager shall have the right to procure and maintain the insurance for and in the name of Subcontractor, and Subcontractor shall pay the cost thereof and shall furnish all necessary information to make effective and maintain such insurance.

ARTICLE 4 - OTHER INSURANCE

Construction Manager shall have no liability or obligation for the cost of any increase in the premiums, or the limits of liability or of obtaining any other type of insurance not described in the Agreement, which Construction Manager may deem necessary or desirable.

ARTICLE 5 - CLAIMS COOPERATION

Construction Manager and Subcontractor shall cooperate fully with each other and their respective insurance carriers with respect to any reasonable safety and accident prevention program and any claims handling procedures established for the Project.

ARTICLE 6 - SAMPLE INSURANCE CERTIFICATE

Subcontractor upon selection will be required to meet all insurance criteria as indicated on the sample "Certificate of Liability Insurance Form". Specific compliance to all posted limited description of operations/special provision, cancellation, and certificate holder must remain unchanged on the Subcontractor's insurance certificate.

END OF SECTION

Section Two

MWBE Participation Plan

Section Two – MWBE Participation Plan Table of Contents

BARNHILL CONTRACTING COMPANY MWBE PARTICIPATION PLAN 4
EQUAL OPPORTUNITY CERTIFICATE OF ASSURANCE 9
IDENTIFICATION OF MINORITY BUSINESS PARTICIPATION 10
AFFIDAVIT A – LISTING OF THE GOOD FAITH EFFORT 11
AFFIDAVIT B – INTENT TO PERFORM CONTRACT WITH OWN WORKFORCE 12
AFFIDAVIT C – PORTION OF THE WORK TO BE PERFORMED BY MINORITY FIRMS 13
AFFIDAVIT D – GOOD FAITH EFFORTS 14
MWBE DOCUMENTATION FOR CONTRACT PAYMENTS 16

Section Two

MWBE Participation Plan

MWBE PARTICIPATION PLAN

BARNHILL CONTRACTING COMPANY MWBE PARTICIPATION PLAN

ARTICLE 1 – POLICY

1.1 It is the policy of Barnhill Contracting Company that small, minority, disadvantaged and women businesses shall have the maximum opportunity to participate in the performance of contracts undertaken by Barnhill Contracting Company. Barnhill Contracting Company will utilize its resources to assist Minority Business Enterprises (MBE) and Women Business Enterprises (WBE) to the fullest extent possible. It is our intent to provide meaningful opportunities for small and disadvantaged business.

ARTICLE 2 - OBLIGATION

2.1 Barnhill Contracting Company and our majority Subcontractors shall endeavor to ensure that minority and women businesses have the maximum opportunity to participate in the performance of our work included in our contracts. Barnhill Contracting Company and any subsequent Subcontractors shall take all necessary and reasonable steps to endeavor to ensure that minority and women businesses have the maximum opportunity to compete for and perform a portion of the work included in our contracts and shall not discriminate on the basis of race, color, national origin or sex. Barnhill Contracting Company will do a better job than any other contractor in the state of North Carolina. We will know the capacities and capabilities of the minority contracting community and provide them with fair and reasonable opportunities.

ARTICLE 3 - GOALS

3.1 Barnhill Contracting Company has established the following goals for participation on all of our contracts:

3.1.1 Minority & Women Business Enterprises **25%**

3.2 Barnhill Contracting Company shall exercise all necessary and reasonable steps to ensure that MWBE's participate in at least the percents of our contracts as set forth above.

3.3 A minimum overall goal of participation by minority and women-owned firms (SDMWOB) has been established by the Owner for this project at **10%**.

ARTICLE 4 – REQUIRED INFORMATION

4.1 Barnhill Contracting Company will maintain for the purposes of tracking our participation the following information:

4.1.1 The names of MWBE firms;

4.1.2 The Contract Item Numbers of work performed by each MWBE firm; and

4.1.3 The total dollar amount to be paid to each MWBE based on agreed upon price.

ARTICLE 5 – GOOD FAITH EFFORTS

5.1 Barnhill Contracting Company will make the following good faith efforts:

5.1.1 Provide adequate public notification regarding bid opportunities for targeted firms;

5.1.2 Undertake direct solicitation of MWBE firms either by fax, email or letter regarding bid opportunities;

5.1.3 Provide a bid list posted in our plan room of the projects we are bidding;

5.1.4 Whenever possible advertise in minority owned publications;

5.1.5 Provide a plan room that is available whenever MWBE businesses need access to it;

5.1.6 Provide professional assistance to MWBE firms during the bid process;

5.1.7 Attended any pre-bid meetings or trade fairs that inform MWBE firms of subcontracting opportunities;

5.1.8 Follow up on initial solicitations of interests by contacting MWBE firms to determine with certainty whether they are interested in projects we are bidding;

5.1.9 Whenever possible carve out portions of the work for MWBE firms so we will have a greater likelihood of meeting our goals;

5.1.10 Provide interested MWBE firms with adequate information about the plans, specifications and requirements of the contract;

5.1.11 Negotiate in good faith with interested MWBE firms;

5.1.12 Provide payments to MWBE firms (if required) before we get paid from owners; and

5.1.13 Treat MWBE firms with respect and dignity.

ARTICLE 6 – DIRECTORY OF CERTIFIED BUSINESSES

6.1 Barnhill Contracting Company will only recognize firms that are properly certified. We will utilize the lists of businesses which have been certified by the North Carolina Department of Transportation, the State of North Carolina, Minority Supplier Development Council, School Boards, and local cities. Only those MWBE firms with current certification will be used to meet our goals.

ARTICLE 7 – DEFINITIONS

7.1 Minority Business Enterprise of MBE means a small business concern, which is owned and controlled by one or more minorities. Except that such term shall not include any concern or group of concerns controlled by the same minority or minorities which has average annual gross receipts over the preceding 3 fiscal years in excess of $14,000,000, as adjusted by the Department for inflation. For the purposes of this part, owned and controlled means a business:

7.1.1 Which is at least 51 percent owned by one or more minorities or in the case of a publicly owned business, at least 51 percent of the stock of which is owned by one or more minorities; and

7.1.2 Whose management and daily business operations are controlled by one or more such individuals.

7.1.3 Minority is defined as a citizen or lawful permanent resident of the United States and who is:

7.1.3.1 Black (a person having origins in any of the black racial groups of Africa);

7.1.3.2 Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless or race);

7.1.3.3 Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); and

7.1.3.4 American Indian

7.2 Women Business Enterprise or WBE means a small business concern, which is owned and controlled by one or more women. Except that such term shall not include any concern or group of concerns controlled by the same woman or women which has average annual gross receipts over the preceding 3 fiscal years in excess of $14,000,000, as adjusted by the Department for inflation. For the purposes of this part, owned and controlled means a business:

7.2.1 Which is at least 51 percent owned by one or more women or in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

7.2.2 Whose management and daily business operations are controlled by one or more of the women who own it.

ARTICLE 8 – ELIGIBILTY OF PARTICIPATION TOWARD MEETING MWBE GOALS

8.1 If a firm is determined to be an eligible MWBE firm and certified by an agency, the total dollar value of the participation by the MWBE will be counted toward the appropriate MWBE goal. The total dollar value of participation by a certified MWBE will be based upon the contract amount agreed upon by Barnhill Contracting Company and the MWBE Subcontractor.

8.2 Barnhill Contracting Company will count toward our MWBE goals a portion of the total dollar value of the participation with a joint venture, eligible under the standards of this provision, equal to the percentage of the ownership and controls of the MWBE partner in the joint venture.

8.3 We will also count toward our goals only expenditures firms that perform a commercially useful function in the work of a contract. An MWBE is considered to perform a commercially useful function when it is responsible for execution of a distinct element. Of the work of a contract and carrying out its responsibilities by actually performing, managing, and supervising the work involved.

8.4 Consistent with normal industry practices, an MWBE may enter into subcontracts. If an MWBE Contractor or Subcontractor subcontracts a significantly greater portion of the work of the contract than would be expected on the basis of normal industry practices, the MWBE shall be presumed not to be performing a commercially useful function. It is not out intent to use "front companies."

8.5 We will count toward our goals 60 percent of any expenditure for materials and supplies required to complete the contract and obtained from MWBE regular dealers and 100 percent of such expenditures to MWBE manufacturers.

8.5.1 For purposes of this provision, a manufacturer is a firm that operates or maintains a factory or establishment that produces on the premises the materials or supplies obtained by Barnhill Contracting Company.

8.5.2 For purposes of this provision, a regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials or supplies required for the performance of the contract are bought, kept in stock, and regularly sold to the public in the usual course of business. To be a regular dealer, the firm must engage in, as its principal business and in its own name, the purchase and sale of the products in question. A regular dealer in such bulk items as steel, cement, gravel, stone and petroleum products need not keep such products in stock, if it owns or operates distribution equipment. Brokers and packagers shall not be regarded as manufacturers or regular dealers within the meaning of this section.

8.6 Barnhill Contracting Company will count toward its goals the following expenditures to MWBE firms that are not manufacturers or regular dealers:

8.6.1 The fees or commissions charged for providing a bona fide service, such as professional, technical, consultant or managerial services and assistance in the procurement of essential personnel, facilities, equipment, materials or supplies required for performance of the contract, provided that the fee or commission is determined by Barnhill Contracting Company to be reasonable and not excessive as compared with fees customarily allowed for similar services.

8.6.2 The fees charged for delivery of materials and supplies required on a job site (but not the cost of the materials and supplies themselves) when the hauler, trucker, or delivery service is not also the manufacturer of a regular dealer in the materials and supplies, provided that the fee is determined by Barnhill Contracting to be reasonable and not excessive as compared with fees customarily allowed for similar services.

8.6.3 The fees or commissions charged for providing any bonds or insurance specifically required for the performance of the contract provided that the fee or commission is determined by Barnhill Contracting Company to be reasonable and not excessive as compared with fees customarily allowed for similar services.

ARTICLE 9 – REPORTS

9.1 Barnhill Contracting will maintain a proper accounting of MWBE firm usage. All accounting information will be certified as proper and accurate on an annual basis by our independent auditors. We will have the capability of providing a detailed report of all MWBE firm usage listed by project or by owner.

Section Two

MWBE Participation Plan

MWBE BID FORMS

EQUAL OPPORTUNITY CERTIFICATE OF ASSURANCE

FIRM NAME

_____

_____

_____, the undersigned

Certifies that he does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that the Undersigned does not and will not permit its employees to perform their services at any location, under the Undersigned's control, where segregated facilities are maintained. The Undersigned understands that the phrase "segregated facilities" means any waiting rooms, work areas, rest rooms, and wash rooms, restaurants, and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise. The Undersigned understands and agrees that maintaining or providing segregated facilities for its employees to perform their services at any locations, under the Undersigned's control, where segregated facilities are maintained, is a violation of the Equal Opportunity Clause required by Executive Order 11246 of September 24, 1965 and 11375 of October 13, 1967 and the rules and regulations thereunder.

The Undersigned further agrees that it will obtain identical certifications from proposed subcontractors prior to the award of agreements exceeding $10,000.00, which are not exempt from the provisions of the Equal Opportunity Clause.

The Undersigned agrees to comply with all reporting requirements of Executive Order 11246 of September 24, 1965 and 11375 of October 13, 1967 and regulations issued by the Department of Labor. Employer Information Report EED-1 (standard form 100) must be filed with the Joint Reporting Committee no later than May 31 each year.

If a current government approved Equal Employment Opportunity Affirmative Action Program pursuant of 41CFR 60-2 is available, please check here _____. If a currently approved program is not available, the Undersign hereby agrees to develop and secure government approval of an Equal Employment Opportunity Action Program within 120 days after receipt of any agreement of $50,000.00 or more and if the Undersign has over fifty (50) employees.

Note: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

_____ _____

Authorized Signature Date

IDENTIFICATION OF MINORITY BUSINESS PARTICIPATION

I, _____,
(Name of Bidder)

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

Firm Name, Address and Phone #	Work Type	Minority	Category	Percentage

*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**AA**), American Indian (**AI**), White Female (**CF**)

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

AFFIDAVIT A – LISTING OF THE GOOD FAITH EFFORT

County of _____

Affidavit of_____
(Name of Bidder)

I have made a good faith effort to comply under the following areas checked:
(A minimum of 50 points must be obtained in order to have achieved a "good faith effort")

☐ 1. Contacted minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed.
Value = 10 points.

☐ 2. Made the construction plans, specifications and requirements available for review by prospective minority businesses, or providing these documents to them at least 10 days before the bids are due**. Value = 10 points.**

☐ 3. Broken down or combined elements of work into economically feasible units to facilitate minority participation. **Value = 15 points.**

☐ 4. Worked with minority trade, community, or contractor organizations identified by the Office of business Assistance Program and included in the bid documents that provide assistance in recruitment of minority businesses. **Value =10 points.**

☐ 5. Attended prebid meetings scheduled by the public owner. **Value = 10 points.**

☐ 6. Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors. **Value = 20 points.**

☐ 7. Negotiated in good faith with interested minority businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing. **Value = 15 points.**

☐ 8. Provided assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure pay loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit. **Value = 25 points.**

☐ 9. Negotiated joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible. **Value = 20 points.**

☐ 10. Provided quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands. **Value = 20 points**.

TOTAL POINTS OBTAINED_____

In accordance with GS 143.128.2(d) the undersigned will enter into a formal agreement with the firms listed in the Identification of Minority Business Participation schedule conditional upon execution of a contract with the CM/Owner. Failure to abide by this statutory provision will constitute a breach of the contract.

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

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____

SEAL

State of North Carolina, County of _____

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

Notary Public _____ My commission expires _____

AFFIDAVIT B – INTENT TO PERFORM CONTRACT WITH OWN WORKFORCE

County of _____

Affidavit of _____
(Name of Bidder)

I hereby certify that it is our intent to perform 100% of the work required for the_____

_____ contract.
(Name of Project)

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

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

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

Date: _____

Name of Authorized Officer: _____

Signature: _____

Title: _____

SEAL

State of North Carolina, County of _____

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

Notary Public _____

My commission expires _____

AFFIDAVIT C – PORTION OF THE WORK TO BE PERFORMED BY MINORITY FIRMS

County of _____

*****(NOTE: THIS FORM IS NOT TO BE SUBMITTED WITH THE BID PROPOSAL)*****

If the portion of the work to be executed by minority businesses as defined in GS 143-128.2(g) is equal to or greater than 10% of the bidders total contract price, then the bidder must complete this affidavit. This affidavit shall be provided by the apparent lowest responsible, responsive bidder within **72 hours** after notification of being low bidder.

Affidavit of _____ I hereby certify that on the
(Name of bidder)

Project ID# _____ Amount of Bid $_____
(Project Name)

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

(Attach additional sheets if required)

Name and Phone Number	*Minority Category	%	Work Description	Dollar Value

*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**AA**), American Indian (**AI**), White Female (**CF**)

Pursuant to GS 143-128.2(d), the undersigned will enter into a formal agreement with Minority Firms for work listed in this schedule conditional upon execution of a contract with CM/Owner. Failure to fulfill this commitment may constitute a breach of the contract.

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

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____

SEAL

State of North Carolina, County of _____

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

Notary Public _____ My commission expires _____

AFFIDAVIT D – GOOD FAITH EFFORTS

County of _____

If the goal 10% participation by minority business **is not** achieved, the Bidder shall provide the following documentation to the CM/Owner of his Good Faith Efforts:

Affidavit of _____
(Name of Bidder)

I do hereby certify the attached documentation as true and accurate representation of my good faith efforts.
(Attach additional sheets if required)

Name and Phone Number	*Minority Category	Work Description	Dollar Value

* Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**AA**), American Indian (**AI**), White Female (**CF**)

Documentation of the Bidder's good faith efforts to meet the goals set forth in these provisions. Examples of documentation include, but are not limited to, the following evidence:

A. Copies of solicitations for quotes to at least three (3) minority business firms form the source list provided by the City of Raleigh for each subcontract to be let under this contract (if 3 or more firms are shown on the source list). Each solicitations shall contain a specific description of the work to be subcontracted, location where bid documents can be reviewed, representative of the Prime bidder to contact, and location, date and time when quotes must be received.
B. Copies of quotes or responses received from each firm responding to the solicitation.
C. A telephone log of follow-up calls to each firm sent a solicitation.
D. For subcontracts where minority business firm is not considered the lowest responsible sub-bidder, copies of quotes received from all firms submitting quotes for that particular subcontract.
E. Documentation of any contacts or correspondence to minority business, community, or contractor organizations in an attempt to meet the goal.
F. Copy of pre-bid roster/letter.
G. Letter documenting efforts to provide assistance in obtaining required bonding or insurance for minority business.
H. Letter detailing reasons for rejections of minority businesses due to lack of qualification.
I. Letter documenting proposed assistance offered to minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letter of credit, including waiving credit that is ordinarily required.

Failure to provide the documentation as listed in these provisions may result in rejection of the bid and award to the next lowest responsible and responsive bidder.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____

SEAL

State of North Carolina, County of _____

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

Notary Public _____My commission expires _____

Section Two

MWBE Participation Plan

MWBE DOCUMENTATION FOR CONTRACT PAYMENTS

MWBE DOCUMENTATION FOR CONTRACT PAYMENTS

Subcontractor Name: _____

Address & Phone: _____

Project Name: _____

Pay Application #: _____ Period: From_____To_____

The following is a list of payments to be made to minority business contractors on this project for the above-mentioned period.

Firm Name	* Indicate Type of Minority	Payment Amount this Period	Total Amount Paid to Date	Total Amount Committed

*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**), American Indian (**AI**), White Female (**CF**)

Date: _____ Approved/Certified By: _____
Name

_____
Title

_____
Signature

THIS DOCUMENT MUST BE SUBMITTED WITH EACH PAY REQUEST & FINAL PAYMENT

Section Three

Bid Package Scopes of Work

Bid Package: BP 001 - GENERAL SCOPE INCLUSION ITEMS

Introduction:

Each Bid Package Scope of Work shall include all of the following as required to complete the Work as indicated on the Drawings, Specifications and Project Manual, and all Addendums.

Scope Intent:

In general, each Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications, Project Manual, Project Bid Manual and all Addendums. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents.

Scope Inclusion Items:

The following requirements shall be included in **ALL** Bid Package Scope of Work Summaries. The degree of inclusion shall be based upon specific Bid Package requirements necessary to facilitate Project completion:

1. The Subcontractor will include the below items in their bid price and agrees upon execution of the bid proposal these items are acknowledged and included.
2. The Subcontractor understands that this document is a summary of items and does not waive any other requirements specified in the Bid or Contract Documents.
3. The Subcontractor has reviewed ALL Bid/Contract Documents/Project Bid Manual.
4. The Subcontractor has reviewed the Subcontract and Exhibits included with the bid documents and takes No Exceptions. The successful bidder will execute the Subcontract in its current form without any modification. No previous Terms or Agreements will apply to the Subcontract.
5. The Subcontractor shall be responsible for examining all of the Documents listed in Section One of the Project Bid Manual, “Project Contract Documents” and “Project Specifications” and all referenced documents. All items related to this Subcontractor’s Work and included in these Documents shall be included in the Subcontract Amount. All work shall be performed in accordance with the Contract Documents.
6. All references to ‘by Contractor, ‘by General Contractor’, ‘by Construction Manager, ‘by CM’, ‘by Construction Manager at Risk’, ‘by CMAR’, or any other similar language on the drawings and specifications in reference to this scope shall be inferably assumed as ‘By this Subcontractor’ unless otherwise specified.
7. The Subcontractor has reviewed the lien waiver requirements and will provide the necessary documentation on a monthly basis with that month’s application for payment. Specifically this contractor understands the requirements for 2nd and 3rd tier subcontractor and supplier lien waivers based on the previous month’s payment.
8. Pre-Installation Meetings: This subcontractor shall schedule, coordinate and conduct pre-installation meetings for all activities so as not to impact the construction schedule and installation of work. The Pre-Installation Meetings will include the CM, other Subcontractors, Architect, Owner Representative, and Manufacturer Representative. The purpose of the meetings is to verify project requirements, substrate conditions, manufacturer’s installation instructions, manufacturer’s warranty requirements, architectural details, mock ups, quality control, and safety program.
9. Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
10. Subcontractor is to submit all submittals to the CM only. Submittals (other than shop drawings) are to be broken up into individual products and transmitted with appropriate, individual cover sheets and/or identifiers, as described in specification sections. Shop drawings are to be packaged together in logical breakdowns of work or "element of construction". Packages of materials lumped together, with no separation of products properly identified and referenced to appropriate specification sections with cover sheets clearly denoting the intent of the product will be returned by the CM as ""Not Reviewed"". The subcontractor is wholly responsible for any schedule or monetary consequences of such action.
11. Background checks for all onsite construction personnel are required to be completed prior to commencing work, refer to Sexual Offender Registry Check Certification Form included in Section Seven. Construction Manager will provide site identification hard hat stickers for all construction personnel.
12. This is an active campus owned and operated by New Hanover County School System, All personnel working inside or around the exterior of the campus MUST execute the pinnacle of professional conduct. ZERO tolerance policy on any person/persons that are brought to the attention of the CM by Staff/Parents or other management personnel.

13. Provide all field supervision and labor, materials, equipment, tools, field measuring and accessories required to complete the Work. Include all necessary coordination with the work by others as required.
14. All hoisting, unloading, deliveries, and inventory are the responsibility of this package. The CM will not accept deliveries on behalf of subcontractors, and will not provide a forklift on-site.
15. Provide all necessary home office and field administration required to facilitate timely completion of this Contract to include not more than a 10 workday turnaround on all administrative paperwork requirements and/or requests from Construction Manager.
16. Subcontractor is required to attend weekly project coordination meetings while work on site is taking place. For phased work, Subcontractor is required to attend such meetings two-weeks **prior to** work starting on site. Subcontractor meeting participation at weekly project coordination meetings is **mandatory**. This shall be a line item on your schedule of values and if you do not attend the site meeting then this amount will be deducted from your payment.
17. Inspection of all equipment, tools, etc. is required on a **daily** basis and must be reported to the Construction Manager via daily inspection reports.
18. All mandatory OSHA regulated paperwork to be turned over to the CM. This includes but not limited to:
    a. Weekly toolbox talks
    b. Daily reports
    c. Fire extinguisher training
    d. Forklift/CCO certifications
    e. Equipment training certifications
    f. Rigging certifications
    g. Signalman certifications
    h. Welding certifications
    i. Frequent and regular inspections (1926) 20. (b) 2
    j. Scaffold/Trenching competent person certifications
    k. Silica Training
    l. Traffic Control certifications
    m. Etc.etc.etc

19. Subcontractor is required to submit daily construction reports to the Construction Manager describing that day's events. Daily reports must be turned into the Construction Manger by the end of each working day. Failure to submit reports as requested may delay processing of monthly payment to Subcontractor.
20. Complete all Work in accordance the Construction Manager's Site Specific Safety Plan and must meet all local, state and federal (OSHA) safety regulations, guidelines and/or requirements including rules, regulations and interpretations of the NCDOL relating to OSHA for the Construction Industry. The strictest of the above shall govern at all times.
21. Subcontractor will read, acknowledge and sign Barnhill's safety orientation form prior to the start of the first day's work. A 20 minute safety orientation video or live orientation will be given by the CM to every employee prior to obtaining access the jobsite. A numbered picture ID badge/sticker will be given to each employee that has signed the orientation notice. This badge/sticker is to be worn so that it is easily visible at all times. Any employee found working on the site without this badge/sticker will be removed from the jobsite.
22. The use of tobacco and e-cigarettes is forbidden on the ENTIRE CAMPUS and construction site.
23. The playing of radios and other entertainment devices (or using cell phones as such) are not permitted.
24. Furnish and install all necessary equipment for safety protection (floor opening protection, temp rails, safety harness, work boots, hard hats, etc.) in accordance with all OSHA and local guidelines and regulations as it relates to the work specific to complete the Work.
25. Provide all necessary engineering, layout, and coordination required to complete Work. CM to provide onsite vertical and horizontal control and one (1) benchmark for subcontractor use. All other layout to complete the Work is the responsibility of the subcontractor requiring unless noted otherwise.
26. Include necessary mobilizations and material/equipment staging relocations as required to facilitate construction progress and/or as directed by Construction Manager.
27. All Work to be completed in accordance with construction progress schedules, weekly meeting coordination, and subsequent updates completed and provided by the Construction Manager. **BCC reserves the right to modify construction schedule based on job progress, conditions, performance, and areas available for**

work. Subcontractor required to man project based on the above conditions, this could require multiple crews working in multiple areas.

28. Strict compliance with project site utilization plan/site logistics plan and work rules as issued or directed by Construction Manager.
29. Unless changed by the Construction Manager, standard working hours will be from 7:00AM to 5:00PM Monday through Friday. Outside Activities and/or noise generating activities may be restricted at specific times during the school year as requested by the School System.
30. **On a daily basis** clean and remove all construction debris, regardless of location, and dispose of into dumpster supplied by Construction Manager. Work area is to be "broom clean". Failure to comply will result in CM acquiring temporary/supplemental labor to conduct cleanup at responsible party expense via back charge.
31. Store on site only necessary materials and equipment to facilitate 10 days of work. Consult Construction Manager for long-term storage if required. Subcontractors must receive prior approval from Construction Manager for onsite storage.
32. The initial testing of soils, concrete, and steel is included in the special inspections, which will be furnished by the Owner. Each subcontractor will be responsible for any re-inspection costs & rectification work cost from any failed inspections of their contract work. Each subcontractor responsible for any testing required outside of that to be provided by the Owner. Subcontractor is responsible for repair of all work to the pre-disturbed condition applicable to the area that may be impacted by Work.
33. Provide all fabrication, delivery and unloading / stocking as required for the Work. Any large shipments that have to be unloaded by a forklift will have to be scheduled with the CM's onsite Superintendent within 24 hours of delivery. The contractor will have to be on site to unload the materials and place in the appropriate location for staging. A forklift will not be provided by the project, all unloading is the responsibility of the bidder.
34. Subcontractors performing excavation or digging activities are responsible to contact existing utility locate services **prior to** excavation start. Subcontractor is responsible for repair of all work to the pre-disturbed condition applicable to the Project site, public and private area that may be impacted by Work.
35. Designated concrete wash-out area(s) will be provided. Each subcontractor will be responsible for own cleanup and disposal of excess concrete. Mortar mixing station will be required to clean on regular basis as directed by CM
36. Maintain dust control of own work while performing work on site.
37. Protect finished flooring work with craft paper or CM approved equal. This includes taping of all seams with heavy duty tape and wrapping protection up walls as required and sealing with tape approved not to damage wall finish.
38. All dewatering of this scope of work as may be necessary to satisfactorily facilitate performance and completion of the work.
39. Provide and maintain all traffic control that pertains to their work, including daily street cleaning as required.
40. All Task lighting as required for your scope of work. BP1600 will provide temp power panels at main work areas.
41. Provide all required Mockups/Samples per Project Documents.
42. Hot and cold weather measures as necessary to facilitate completion of this work and in accordance with design criteria and manufacturer recommendations. Subcontractor to provide specific QA/QC plan for items related to scope of work.
43. Firestopping and/or fire-safeing all penetrations through fire-rated assemblies is included in this scope of work.
44. Layout and installation of ALL penetrations including core drilling, saw cutting and sleeves for this scope of work.
45. Layout and installation of ALL penetrations for slabs on grade and slabs on deck is included in this scope of work as applicable.
46. Removal of all temporary labels and protective coatings/coverings after completion of installation of work.
47. Subcontractor responsible for any/all coordination, scheduling and applicable fees for inspections required for completing Work.
48. Protection of work-in-progress and/or work-in-place is required. Damage to the installed work of others will be charged to the responsible party damaging such work.
49. Protection of adjacent work areas will be required. This is an active school, and daily cleaning/mopping/removal of debris will be required if "tracking" of dust is caused by your contract
50. All subcontractors will be required to use the Procore Field Software provided by the CM. Software can be run via an application on a phone or Ipad, so nothing special is needed. The CM will provide training for designated person(s) of each BP. Project Managers and Field Supervision of each BP are responsible for distribution of all Issue Reports to field staff for issue correction. Each BP is responsible for the issues assigned to them. If an item is incorrectly assigned, please notify the CM immediately through the comments function in the software.

51. Each Bid Package is responsible for all Quality Assurance / Quality Control of their work by completing and submitting an evaluation of their work before the CM performs their punch list. The list the CM creates will be generated and completed in the BIM 360 Field System.
52. Procore will be used for: Ongoing QA / QC Activities, work to complete list, non-conforming work list, housekeeping list, safety audits and commissioning checklists, including material tracking and commissioning of all systems. All punch list activities by the CM, including CM, Architect, Owner, Engineer and Commissioning Authority/Agent Punch List, viewing all Contract Documents, Scopes of Work, Addenda, RFI's, Submittals, As-Builts, Pictures, and any other pertinent information related to the project.
53. The roofing will be protected at all times. All work occurring on the roof after the roof installation will include all protection required. Each subcontractor must submit their plan for roof protection in advance and in writing prior to work activities. Each subcontractor **must execute a pre-task plan daily** requesting roof access and secure approval from the CM.
54. This subcontractor to ensure proper, competent and authorized personnel on hand during Fire Marshall and all other inspections.
55. Include all necessary punch list work. Coordinate with Construction Manager as to timing of punch list work to be completed prior to starting such Work. Provide complete as-built documentation and O&M documents per the Project Specifications and Contract Documents as part of "Punch list work" or as requested or directed by Construction Manager. Once the subcontractor is presented the punch list in writing the subcontractor then has three working days to start performing corrective measures. If the subcontractor doesn't meet this obligation then is shall be the right of the Construction Manager to supplement the subcontractor and back charge the cost to the prime subcontractor. Mobilization for this work shall be covered under this scope along with any per diem, mileage and hotel.
56. Provide all project closeout documentation required in Contract Documents within **90 calendar days** and not less than **30 calendar days** of substantial completion of this contract or specific phase of work as directed or requested by the Construction Manager.
57. All warranties, including any special warranties, as required and for the period specified per the specifications. Unless otherwise stated or required by the contract documents, this subcontractor unconditionally warrants and guarantees all materials and workmanship against patent defects arising from faulty materials, faulty workmanship or negligence for a period of **twelve (12)** months following the date of substantial completion of the Work and beneficial occupancy and shall replace such defective materials or workmanship without cost to the CM or Owner.
58. Proper testing and demonstration of all equipment as required per specifications. Include authorized representatives of equipment manufacturers at testing and demonstration dates.
59. All necessary Owners' maintenance/attic stock in accordance with and as indicated in the project specifications.
60. Any equipment/material maintenance agreement for the period as indicated in the project specifications to be included in base bid.
61. Portable sanitary facilities will be provided on the project, all persons performing work onsite are to utilize these only. Use of the Owner's facilities is prohibited and violation may result in the responsible party being removed from the project.
62. Include all necessary mobilizations for labor, material and/or equipment to be in accordance with the Site Logistics Plan. Onsite parking will be extremely limited.
    A. Clean up of trash in parking areas will be mandatory, all subcontractors will be held responsible for clean up in their designated parking area.
63. FULL TIME competent superintendent is required while working onsite (the goal is to have one person who is knowledgeable with this specific project and is familiar with the day-to-day operations of the entire project). The supervision must be qualified in all aspects of each scope and have the authority to make financial decisions. (A Superintendent or Foreman who cannot make a decision in the field is not qualified to run this type of work and the CM will ask they be replaced immediately). This scope includes (1) Competent Superintendent on site at all times while work is in progress. This Superintendent cannot be removed for the duration of this project unless he is terminated from the company or as directed by CM.
64. A supervisor from the awarded company is required to be onsite at all times during work of any lower tier subcontractor.
65. All deliveries must be signed for by the contractor performing this scope of work. CM will not sign for any items (including: UPS, FedEx, DHL, etc.).
66. Coordination between all plans shall be performed and if any discrepancies are found notify CM for clarification. No compensation will be granted due to lack of plan review and coordination.

67. It is understood that this is a complete working package that meets all codes requirements and is in compliance with AHJ (Authority Having Jurisdiction) and manufacturers. It will be the responsibility of the supplier to acknowledge any circumstances where the drawings or specifications do not meet these requirements. No additions will be granted for failure to disclose any circumstances where the package is incomplete.
68. Any change order that is discovered has to be submitted **within ten (10) days** of its discovery to the CM. If the contractor does not turn in the appropriate request for change the contractor will forfeit his right for extra compensation and the work still must be installed per contract documents.
69. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact. Store materials protected from exposure to harmful weather conditions. Handle material and components to avoid damage. Protect materials against damage from elements, construction activities, and other hazards before, during and after installation. Responsible contractor will be held liable for any damages to any existing roads, asphalt, sidewalks, curb & gutter, lawn/grassed areas, utilities, etc.
70. No burning is allowed on site.
71. Refer to individual Bid Package Scopes for additional specific requirements.

Priority Task Items:

The Construction Manager is committed to starting on site construction as soon as possible; therefore as part of this Bid Package there are **priority task items** that must be preplanned, organized, scheduled and completed on site first, prior to beginning other work scope responsibilities. Priority task items do not necessarily need to be completed in sequential order; they can be completed concurrently where it makes sense for construction and as necessary to expedite completion. Priority task items, in a proposed order of completion are as follows.

1. Submit to the Construction Manager certificate of insurance within **5 workdays** of receipt of Notice to Proceed.
2. Submit to the Construction Manager executed contract within **10 workdays** of receipt of Notice to Proceed.
3. Submit to the Construction Manager **all submittals** within **20 calendar days** of receipt of Notice to Proceed.
    a. Reference the SOW for additional critical submittal components of the work, these submittals may need to be turned in quicker.
4. Submit to the Construction Manager Subcontractor's project safety plan prior to commencing Work (to include tiered subcontractor plan if applicable).
5. Submit to Construction Manager a "Project Participation List" listing of all subcontractors, material and equipment suppliers, vendors and anyone else who may be providing goods and services to the project. Include company names, address and contact numbers, contact name, email address, scope of work, and anticipated contract or purchase order amounts. No Subcontractor payment shall be released until this list is received and approved by the Construction Manager.
6. Within **10 workdays** of receipt of Notice to Proceed, the Subcontractor shall have permanent project personnel assigned to participate in the Construction Manager's project scheduling sessions.
7. Prior to commencing work on site, Subcontractor shall arrange for all site personnel to complete the Construction Manager's project specific safety orientation program.
8. Subcontractor will comply with all quality related requirements listed in the contract documents. Subcontractor shall follow the protocols and procedures listed in the Quality Control Plan for this project. Within **10 workdays** of execution of the subcontract, Subcontractor will submit a Quality Control Plan to the Project's Quality Control/Quality Assurance Manager for review and approval. This plan shall outline the quality practices that the subcontractor will implement to meet the quality requirements of this project. The plan shall also designate the subcontractor's point of contact for all quality related issues. Subcontractor shall utilize only pre-approved manufacturers and installers for all work in this scope. Subcontractor will inform the QA/QC Manager of all inspections, tests and off- site inspection dates scheduled for the project in a timely manner.
9. Refer to individual Bid Package Scopes for additional specific requirements.

Allowances:

1. Allowance as may be contained in specific Bid Package Scope(s) shall be included as part of the total lump sum Bid Proposal amount. **An allowance shall include all costs including overhead, profit (mark-up) and exclude performance and payment bond costs.** The allowance is available for application at the discretion of the Construction Manager and the unused portion credited against the Contract amount. All Contract allowances will be identified in the Schedule of Values as an individual line item.

2. Utilization of any allowance shall be documented by **daily** documentation as directed by the Construction Manager.
3. Refer to individual Bid Package Scopes for specific requirements.

Unit Prices:

1. Unit Prices as listed may be utilized by the Construction Manager to make contract cost adjustments for changes in the Work. Unit prices for completed in place Work shall include cost for labor, materials, equipment, insurances, taxes, bond premium, overhead and profit fifteen percent (15%) and other related incidentals and remain firm and in effect for the duration of the contract. Solicited unit prices for deleted Work shall be calculated at not less than fifteen percent (15%) for overhead and profit.
2. Refer to individual Bid Package Scopes for specific requirements.

Alternates:

1. Alternate Prices shall include all cost associated with the changes, omissions, additions or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any Alternate will not be allowed.
2. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives.
3. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.
4. Refer to individual Bid Package Scopes for additional specific requirements.

Work Scope Sequence:

1. The Construction Manager proposes the following work scope sequence for preplanning purposes:
    1. Refer to Phasing Plan Section 1

2. The Construction Manager Reserves the right to change work scope sequence as may be necessary to promote construction progress.

END OF SECTION

Bid Package: BP 100 - GENERAL TRADES

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 5 (all Sections as they apply to this scope of work)**
- **Division 6 (all Sections as they apply to this scope of work)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all General Trades duties as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Include two (2) laborers for forty (40) labor hours per week to perform ongoing cleanup duties and light unloading of materials as directed by the Construction Manager for a period of thirteen (13) months. The Construction Manager may ask that a laborer who demonstrates uncooperative actions be removed from the project with 24 hours of written notice issued. The Construction Manager shall give, at minimum, 24-hour notice for discretionary labor requirements. Include a qualified/competent Foreman for duration of project.
    a) To support item #2 above include:
        i. Provide commercial grade brooms, rakes, shovels, hoses, sweeping compounds, etc. as necessary to support item #2 above.
        ii. Provide and maintain a commercial grade pressure washer, minimum 3,000 PSI type, including all operational costs, for duration of project to be used at direction and discretion of CM.
        iii. Include a 10’x20’ Connex/Storage Unit for storage of materials for a period of ten (10) months. Placement to be as directed by the Construction Manager.
        iv. Include fourteen (14), 10lb. fire extinguishers for thirteen (13) months. Include annual inspections, stands and proper labeling for fire extinguishers.
        v. Provide and maintain approximately five (5) commercial grade trash cans with lids (secured per OSHA Standards), minimum 55-gallon capacity and include heavy duty trash bags/can liners for duration of project.
        vi. Include two (2) rolling trash carts (to support #2 above), for the duration of the project as directed by the Construction Manager.
        vii. Include a heavy duty type/commercial grade door mat at each entrance to the building for the duration of the job. Size to be minimum 3’x5’ with rubber backing. Include a quantity of five (5) additional replacement mats to be provided as directed by the Construction Manager.
3. Provide and maintain forklift with, at minimum, a 42 foot extension and 6,000-pound capacity for a period of ten (10) months. Provide certified/qualified forklift operator for duration of time. Operator shall perform general labor activities at discretion of the Construction Manager while not operating forklift. **Operator can be included in laborers required by item number 2.** Include material and labor to build trash boxes. Trash boxes to be reinforced wooden type, minimum (4’x8’x4’). Provide all fuel and maintenance.
4. Include weekly, thorough cleaning of CM Office Trailer. This includes dusting/cleaning of all desks, tables, bathrooms, chairs and cleaning of windows.
5. There will be work dealing with the installation of the mobile units (this will be a separate permit) will be included in this scope. Reference AM1.0, C2.0 –C6.0, and E1.41 & E1.42 for requirements
    a) Pickup from previous location and re-install skirting (under pinning) on both trailers. (if skirting is not reusable notify CM immediately)

b) Pickup from previous site and re-install all aluminum ramps as shown on the contract drawings
c) Installation of the downspout and splash pads will be by this scope

6. Remove/store/re-install lockers in the locker room as part of Alternate G-2
7. Remove/Store/re-install all appliances in the locker room as part of Alternate G-2
8. Power washing cleaning of the existing soffit prior to painting as called out on the documents.

Priority Task Items:
1. As directed by Construction Manager.

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1. Not applicable.

Unit Prices:
1. Rate per laborer hour regular time
2. Rate per laborer hour overtime
3. Rate per carpenter hour regular time
4. Rate per carpenter hour overtime

Alternates:
G-2 Athletic Support Space Renovations (This one involves P, M & E work)

END OF SECTION

Bid Package: BP 105 – FINAL CLEANING

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**

Furnish all labor, material, equipment, and supervision required to complete all Final Cleaning as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Complete cleaning of the existing Trask Middle is to be completed by this package following the completion of work in phases throughout the school year.
3. Interior Cleaning Scope of Work for New Construction
    a) VCT – Stripping and waxing with 5 coats using NHCS approved floor finish
    b) Carpet – Vacuum all loose foreign material, spot clean
    c) Baseboard of all types – Wipe clean by hand to be free of blemishes, foreign matter or streaks
    d) Ceramic Tile and Grout - Mop and sanitize to be free of all foreign matter or discoloration
    e) Wall Gypsum Board – Dust or vacuum until free of surface debris
    f) Concrete Floors without paint coverings – Wet mop
    g) Concrete Floors with painted coverings – Wet mop until free of blemishes
    h) Acoustical Ceilings and Grid – Dust or vacuum and wipe free of blemishes
    i) Terrazzo – Dust/mop until free of blemishes
    j) Mechanical, Electrical Equipment – Dust and/or wipe all surfaces until clean
    k) HVAC Grilles/Diffusers - Dust and/or wipe until clean
    l) Restroom Fixtures and Hardware – Wipe clean and sanitize all surfaces
    m) Woodwork and Casework – Dust and/or wipe clean all surface. Cleaning products to be approved prior to use.
    n) Fire Extinguishers and Cabinets, Misc. Mechanical/Electrical Accessories – Wipe clean
    o) Drinking Fountains – Wipe clean, sanitize
    p) Doors and Hardware – Wipe clean all surfaces
    q) Interior Glass and Mirrors – Wipe clean free of blemishes, smudges, etc.
    r) Resilient Floor – Sweep and mop clean
    s) Vertical Blinds and Window Treatments – Dust and wipe clean
    t) Metal Handrails and Stairs - Vacuum and wipe clean
    u) Light Fixtures and Cover Plates – Dust and wipe clean
    v) Exposed Piping and Risers – Dust and wipe clean
    w) Existing Gym Floor and support areas – Dust Mopped
    x) Windows – Brush with soft bristle brush, wipe down with clean potable water and cotton cloths, clean paint drips with approved solvent. Windows will be streak free at time of turnover.
    y) Appliance – Dust and/or wipe until clean
    z) Lockers – Dust and or wipe clean

4. Exterior Cleaning Scope of Work for New Construction:
    a) Exterior Glass - Brush with soft bristle brush, wipe down with clean potable water and cotton cloths, clean paint drips with approved solvent. Windows will be streak free at time of turnover.
    b) Exterior Sitework – Pressure washing of all exterior walkways and sidewalks.

5. Miscellaneous Scope Items:
    a) Include multiple mobilizations as required to facilitate construction progress and/or as directed by CM.
    b) Provide all necessary cleaning materials and equipment, including hoisting/lifts to complete this scope of work
    c) Provide 3-phases (rough, pre-final and final) of cleaning for the building interior including all glass surfaces. Rough cleaning shall include vacuuming with filters in lieu of sweeping. Provide a cleaning during the final punch list walk in order to ensure that there are no cleaning items on the final list. Provide one time cleaning for the exterior glass, hardscapes, site amenities and other related items. Cleaning agents used for each surface shall be in accordance with the manufacturer's recommendations.
    d) Removal of all adhesive tabs and films on mirrors, windows, doors, hardware and appliances. Any damages and/or scratches to surfaces caused by this removal shall be the responsibility of Subcontractor.
    e) Subcontractor understands and agrees that a "reasonable" amount of drywall mud, glue, paint, and other related items are expected and shall be removed as part of this Agreement.
    f) Subcontractor understands that all cleaning products must be approved by or recommended by the flooring manufacturer. Any damaged caused to flooring products shall be the responsibility of Subcontractor.
    g) Maintain building cleaning during final building phase, including but not limited to, entryways stairways and main entrances.
    h) Subcontractor to submit cleaning procedures and materials for approval prior to commencing work.
    i) Cleaning materials data sheets must be submitted to the CM prior to commencement for approval.
    j) Provide all necessary cleaning materials and equipment to complete this work including lifts as needed.
    k) Subcontractor acknowledges that damages can occur at final cleaning stages of the windows. This contractor is to perform a site survey prior to cleaning and submit to CMR by written notification of damaged/scratched windows prior to cleaning. Failure to do so and any damages/scratches on windows following the commencement of cleaning will be the sole responsibility of this subcontractor.
6. Refer to Partial Phasing Plan in Section 1 of the Bid Manual for areas that will receive temp/sacrificial VCT following 1st Summer abatement. This Bid Package will be responsible to wax these temp VCT areas, in addition to the Permanent installations.
7. There will be work dealing with the installation of the mobile units (this will be a separate permit) will be included in this scope. Reference AM1.0, C2.0 –C6.0, and E1.41 & E1.42 for requirements
    a) Assume final cleaning of the mobile units in their entirety. All materials included, scope to mirror above
    b) Stripping and re-waxing of all VCT will be required (one trailer is all VCT, the other trailer VCT only occurs in bathroom unit and hallways)

Priority Task Items:
1. As directed by Construction Manager.

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1. 50 man hours of labor time for discretionary use by the CM's Project Representative, all materials included. Additional labor time will be tracked via daily reports and any remaining unused labor time will be credited back to the CM/Owner at the hourly labor rate for this subcontractor.

Unit Prices:
1. Rate per laborer hour regular time
2. Rate per supervisor hour regular time

Alternates:
G-2 Athletic Support Space Renovations (This one involves P, M & E work)

END OF SECTION

Bid Package: BP 220 – DEMOLITION & ABATEMENT

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**

Furnish all labor, material, equipment, and supervision required to complete all Demolition and Abatement as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. All task lighting as may be required for scope of work.
3. Unloading of all items as pertains to this scope of work. This scope to provide a certified forklift operator to unload materials that affect this scope.
4. Include all equipment and tools needed to complete this scope of work.
5. Please reference specifications and survey reports provided by NHCSS 3rd party Precision Environmental. Including prepping of all lead paint on steel to receive new welded fasteners:
    a) Information can be found in Section 8 Appendices of the Bid Manual.
6. The duration of this scope will be multi phased over the course of 12 months, and this contractor will need to ensure multiple mobilizations, both for demolition and abatement scope. Refer to Partial Phasing Plan located in Section 1 of the Bid Manual.
7. Provide Hazardous Material & Asbestos Abatement per the Survey provided in the specifications, including but not limited to flooring, pipe insulation, etc. Adhere to all rules and regulations both local and state.
8. All PCB abatement per plans and specs. Disposal per specs.
9. Provide Lead Remediation per the Survey provided in the Appendices. Adhere to all rules and regulations both local and state.
10. Demo and properly dispose of all items listed on the drawings and specifications that are not listed to be salvaged for later use. Any items called out to be turned over to the Owner will be coordinated with CM
11. All walls called for demo in the contract documents will be made safe by BP 1540, BP1550 & BP1600.
12. Included in this scope of work is demo of all aspects of the Admin area, courtyard, media center, bathrooms, main entrance, and science wing. As shown on the contract documents not limited to; ceiling grid, ceiling tiles, floor tile, VCT/carpet, walls (CMU/GWB/RACO type), plumbing fixtures, marker boards, cabinets, remaining furniture, light fixtures, ductwork, hangers, unistrut, ceiling wire, beam clamps, wall base, doors and frames, etc.etc.etc.
13. Excluded DEMO in this scope of work; HVAC duct, Ceramic Tile in the renovated bathrooms, Windows, Storefront Frames/Doors, and Interior Rated HM Frames/Doors to be removed by others.
14. Existing Knox Box to be salvaged and turned over to CM; reinstalled by BP400.
15. Refer to salvage brick note on demo drawings. Carefully remove, clean and store brick (palletized) for reinstallation by the Mason.
16. This scope of work is responsible for all lifting, hoisting, material handling, trash shuts, etc., for a complete demolition and abatement of the existing building.
17. All hardware called out in walls for demo will be salvaged and turned over to NHCSS locksmith for stock. Coordinate with CM.
18. Include demo of all structural steel beams, bar joist, and decking associated with the roof demo for the classroom pop-up and main entrance remodel. NOTE: straight clean cuts on existing decking will be required where ceilings are exposed.

19. Refer to S2.01; existing girder to be shored by this bid package so that existing tube columns and perimeter girders can be demo'd by this package. Leave shoring in place, to be removed by BP500 upon installation of new steel. (Slab/foundation demo by BP390)
20. Removal of all general CD demo material to dumpster provided by CM.
21. Asbestos or Hazardous material disposal will done turnkey from this bid package, including separate dumpsters, disposal and all fees. Contractor to provide adequate dumpsters for removal of hazardous material from site. Supply appropriate documentation as required for disposal of hazardous materials. All dumpster weight tickets shall be submitted to the CM.
22. Daily cleanup of debris caused by this work. Sweeping and or daily mopping of the hallways will be needed to keep dust down in adjacent learning areas.
23. Contractor is required to provide noise and dust control measures including but not limited to negative pressure containment areas, wet cutting, dust down, misters, etc.etc.
24. Protections of adjacent areas not called for demo; including but not limited to plastic barriers, temp partition walls, ram board, etc.
25. No dry cutting of masonry will be allowed.
26. Any cutting of masonry that will be a "finished" product will be straight and plumb, any corrective work needed to achieve this will be the responsibility of this contract.
27. Include system scaffold and building wrap to ensure that the interior of the building remains dry when the roof is cut loose, factor system scaffold to be 8' higher than the roof, so that all work can be constructed from the dry interior of the space below. this will occur at (2) locations. 1 at the classroom bump up for first install then relocated to the main entrance for the vestibule work. Coordinate with CM for timing of this install.
28. Ensure no mastic remover or similar products are utilized that would affect new flooring going down.
29. Contractor to take precautionary measures not to damage items noted to be left in place, stored or turned over to the owner.

Priority Task Items:

1. As directed by Construction Manager.

Work Scope Sequence:

1. As directed by Construction Manager.

Allowances:

1. An allowance of 80 additional man hours should be provided for discretionary use by the CM's Project Superintendent for additional asbestos abatement.
2. An allowance of 100 additional man hours should be provided for discretionary use by the CM's Project Superintendent for additional demolition.

Unit Prices:

1. Rate per laborer hour regular time
2. Rate per supervisor hour regular time

Alternates:

G-2 Athletic Support Space Renovations (This one involves P, M & E work)

END OF SECTION

Bid Package: BP 250 – TURNKEY SITEWORK

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and **ALL** related Site Work **(Earthwork, Utilities, Storm drainage, and Asphalt)** as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual including **ALL Site Concrete** work. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 3 (all sections as they apply to this scope)**
- **Division 4 (all sections as they apply to this scope)**
- **Division 9 (all sections as they apply to this scope)**
- **Division 10 (all sections as they apply to this scope)**
- **Division 31 (all sections as they apply to this scope)**
- **Division 32 (all sections as they apply to this scope)**
- **Division 33 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Earthwork, Storm Drainage, Erosion Control and Stone Base as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Provide all fabrication, delivery, materials and unloading/stocking as required for the Work.
3. All Work shall be in accordance with all New Hanover County/NCDOT/OSHA/NCSBC/NC E&S standards and Specifications.
4. All staking/surveying/layout necessary for this scope of work.
5. All equipment as needed to perform this scope of work and unload deliveries
6. Include necessary mobilizations and material/equipment staging relocations as required to facilitate construction progress and/or as directed by Construction Manager.
7. All Backfill as required per Contract Documents and as it relates to this scope of work.
8. This subcontractor shall provide and maintain suitable all-weather access to the building throughout duration of project.
9. Contractor shall provide all barricades and at protective barriers around all excavations as required for safety and per Plans and Specifications.
10. All concrete materials required for this scope of work.
11. Installation, maintenance and removal of erosion control measures per Plans and Specifications throughout course of project duration. Maintain erosion control installations until they are no longer required to facilitate the completion of the Project and/or NCDENR permits final removal. Include all proper inspections, documentation and maintenance to comply with all applicable State and Local guidelines. This includes proper inspection, maintenance, and documentation after each rainfall event.
12. Include installation and maintenance of all temporary concrete washout pits including signage as required per Plans and Specifications. Include relocations and removal as directed by Construction Manager.
13. Installation, maintenance and removal of all silt fence, super silt fence, baffle fence, temporary inlet structures/protection and tree protection fencing including all necessary signage as shown on the contract documents
14. Provide and maintain construction entrance(s) as indicated on the Project Documents. Include maintenance as directed by Construction Manager
15. Provide weekly sweeping of all paved area within the project limits, including Danny Pence drive. This will be at the direction of the CM.

16. Include ALL site demolition and removal from site all existing site items noted on the civil drawings. Site items include all items scheduled for demo indicated on Plans and in Specifications. Include restoration to pre-disturbed conditions.
17. All unsuitable waste (as defined by the Soils Engineer) generated from site construction operations shall be removed from the project site or wasted on site according to Plans and Specifications and as directed by Soils Engineer.
18. Include all necessary demolition as required for the scope of work and restoration of Site to its pre-existing conditions as indicated.
19. Any and all dewatering as necessary to facilitate the completion of Work.
20. Include all grading necessary to promote **positive drainage** throughout the entire site. This is to be maintained on a **daily** basis for the duration of the project.
21. Final grading around the mobile units upon completion of installation and seed/straw/binder.
22. Upon completion of the project and mobile unit removal from site. This bid package will return and return the site to undisturbed state, including but not limited to: grading, cleanup, minor cut/fill, backfilling of demoed sidewalk, straw, binder, seed, etc.
23. Include all Demo of sidewalks associated with the mobile unit removal (reference AM1.0, C2.0 –C6.0, and E1.41 & E1.42 for delineation of sidewalk to remain/removed). This will occur at same time as #22 above. Grade, seed and return to undisturbed state will be required.
24. Following removal of the mobile units BP 250 will be responsible for excavation of grinder pump, cleaning of, and turn over to NHCSS maintenance shop, per the contract documents in a usable state.
25. Fine Grading and Seeding of new sidewalks in existing grassed areas is by this subcontract. Seeding to take place immediately following sidewalk completion.
26. This contract will be responsible for installation of the fence around the new traffic circle. Note S on C2.0.
27. All site grading to grades as indicated to include rough/fine grading, topsoil furnish/install, backfill of curb/gutter, backfill of pavement, curb islands, backfilling edge of sidewalks and backfill to compaction requirements at all areas as indicated.
28. All layout and grading for sidewalks to tolerances indicated include compaction as indicated.
29. Grading for all paved areas (rough and fine) will include proof rolls to insure proper compaction. Ensure compliance of all grades. Grading tolerances shall be per specifications and acceptance of asphalt installer.
30. Include seeding of all disturbed areas and new sidewalk areas. Seed to match existing and reach coverage noted in project specifications.
31. Haul off site all any excess soils from site and/or import any soils as necessary to achieve final grades.
32. Fine grading to tolerances as specified to facilitate landscaping. Coordination with landscape subcontractor as required.
33. Off-Site roadwork grading as required per Plans and Specifications.
34. All Storm Sewer work show on the drawings will be the responsibility of this scope of work, including the relocation work around the traffic circle to be included in BP250. All structures, accessories, concrete, fabric, needed to furnish a complete system.
35. All roof drain leader tie-in work shown on the contract documents will be the responsibility of this contract (coordinate with BP 1540). All materials included but not limited to piping, fasteners, fittings, adhesive, concrete materials.
36. All flushing of sediment/debris from storm sewer after site stabilization and any interior flushing of system as needed to maintain proper functioning of system throughout duration of project. Coordinate with Construction Manager for field verification purposes.
37. Provide all traffic control related to this scope of work. Include all necessary permits through New Hanover County/or NCDOT for any road or lane closures. No work performed within this scope shall disrupt the daily activities of the neighboring schools, emergency facilities or businesses.
38. Daily cleanup of debris caused by ALL scopes of this work including sweeping road.
39. All required import for site areas that will support plant life will be topsoil, approved by the site EOR and installed per the details on the contract documents. These areas include: backfill of sidewalk, grade and seed at sidewalk, mobile site, curbs and islands, etc. (anywhere that will receive grass seed or new plant life). BP290 will be responsible for fine grading prior to seed installation.
40. Slope and surface stabilization. Temporary seeding, rip rap outlets, fabric, rip-rap, grass lined channels as indicated including necessary maintenance of installed work as needed.
41. No burning permitted on site.

42. All undercut must be certified by the owner's testing agency and project engineer of record upon incurring such work.
43. Adjustment of existing utilities (i.e. manholes, valve boxes, vaults, cleanouts, utility poles, etc.) to final grade as necessary to match new grades.
44. All Footing Spoil Removal from multiple locations and coordination of this work with BP390.
45. All underground plumbing & electrical rough-in spoil removal from multiple locations and coordination of this work with BP1540 and BP1600.
46. Dust control as necessary to complete this scope of work and as directed by Construction Manager.
47. Compliance with all notes per Plans and Specifications regarding land disturbing activities.
48. Include all Work associated with all Stone Base, including but not limited to the following: curb/gutter, light and heavy duty asphalt areas, etc., including all prep work and stone base under this scope of work as outlined in respectively, for Work in accordance with all Project Documents and all work to be performed.

ALL SITE UTILITIES INCLUDED:

1. ALL above general notes apply to this scope
2. Provide all fabrication, delivery, materials and equipment for unloading/stocking as required for the Work.
3. Include all staking/surveying/layout for completion of this scope of work.
4. All equipment and trench safety as needed to perform this scope of work and unload deliveries.
5. All Work shall be in accordance with local AHJ and plans/Specs
6. Include necessary coordination and inspection with NHC inspector and all proper backfill and compaction in accordance with specifications and testing agency.
7. Surveyed As-Built Drawings are required for this scope of work.
8. Include multiple necessary mobilizations and material/equipment staging relocations as required to facilitate construction progress and/or as directed by Construction Manager.
9. All concrete materials required for this scope of work.
10. Dewatering of this scope of work as necessary to complete this work.
11. Street cleaning as required for this scope for work.
12. All demo as required for this scope of work per Plans and Specifications. Include restoration of work areas to pre-existing conditions.
13. Haul off site of all debris and demo created by this work.
14. Furnish and install all water lines, sanitary sewer lines and structures, services, all cleanouts, tapping sleeves, saddles, taps, tees, bends, water meters and vaults, gate valves and valve boxes, valve box extensions, blow-off assemblies, RPDA within heated enclosure, RPA within heated enclosure, air release valves, reducers, meter boxes, meter assemblies, thrust blocking (rodding if acceptable), identification materials/devices, any and all required certifications, pigging, pressure testing, disinfection, bacteriological testing, vacuum testing, etc. for a complete and functional installation of this work.
15. Trench boxes/shoring as needed for depths encountered. This contractor shall comply with all OSHA Regulations in regards to trenching/excavations and required documentation.
16. Concrete pad and cover at backflow preventer assembly at mobile units (wiring by Electrical Contractor– cord and plug by this bid package).
17. Valves and valve boxes including cleanout collars.
18. Coordination of this scope of work as it relates to work installed or provided by others.
19. Coordination of tie-ins associated with the work installed or provided by others (i.e. canopy drainage, roof drainage, etc.).
20. Connections to existing utility services as required by this scope of work.
21. Required clearances of installed work as indicated in Plans and Specifications and in accordance with AHJs.
22. Installation of all associated piping as called out on the contract documents for the connection of the mobile units to the existing utilities.
    a. New 4" PVC sewer force main to grinder pump (BP1540 will make connection from mobile unit to grinder pump.
    b. Provide and install grinder pump as shown on C5.0
    c. New 2" domestic PVC water line
    d. New 2" tap/TEE on existing water main with valve
    e. New backflow and RPZ
    f. Concrete base/pad included in this contract for RPZ

g. All chlorination and testing of the water line per the plans and specs
h. All sewer service taps (tie in) as needed to provide complete system

23. Sanitary sewer and domestic water shall be run to the mobile units (final connection by Plumbing Contractor).
24. Benching, sloping or the use of trench boxes or shoring as needed for excavations to install work in this Bid Package. This contractor shall comply with all OSHA Regulations related to trenching/excavating and required documentation.
25. All site work area to be restored to existing conditions following completion of this bid package.
26. Adjustment of all utilities to finish grades in pavement and graded areas.
27. Provide all traffic control related to this scope of work. Include all necessary permits through New Hanover County and/or NCDOT for any road or lane closures. No work performed within this scope shall disrupt the daily activities of the neighboring schools, emergency facilities or businesses.
28. Install furnish & installation of all concrete collars per Contract Documents.

ALL ASPHALT PAVING INCLUDED:

1. All staking/surveying/layout for scope of work.
2. All equipment as needed to perform this scope of work and unload deliveries.
3. Include ALL necessary mobilizations and material/equipment staging relocations as required to facilitate construction progress and/or as directed by Construction Manager.
4. All Work shall be in accordance with local AHJ and all plans and specifications.
5. All reinforcing steel materials/accessories and installation, including delivery and NC Sales Tax, including necessary supports, protective caps, etc. required for this scope of work.
6. All asphalt materials required for this scope of work.
7. All light, medium and heavy duty asphalt pavement including handicapped access, gravel paving/driveways, curb & gutter, striping, walkways, tracks, etc. for Work in accordance with all Project Documents.
8. Finished paving elevations that are to be flush with finished sidewalk elevations are the responsibility of this Bid Package.
9. All fine grading for the installation of asphalt included.
10. Cleaning of asphalt off all manholes, cleanout covers, frames and grates, sidewalk, valve boxes, etc.
11. All saw cutting of asphalt as needed to facilitate work.
12. Patching of asphalt at construction trailer for temporary water service.
13. Verify all final elevations of sewer lids, grates, manholes, cleanouts, inlets, etc. are installed at proper elevations prior to placement of asphalt.
14. Implement necessary protective measures to protect completed pavement from unnecessary traffic. Coordinate with Construction Manager.
15. Include all asphalt resurfacing/seal coating work as noted in the project documents, including removal and re-install of wheel stops, and any other affixed accessory.
16. Include all thermoplastic striping as indicated on the traffic control notes.
17. Include installation of the pedestrian crosswalk and associated striping.
18. Dewatering of this scope of work as may be necessary to facilitate completion of the work.
19. All Off Site work by this contractor including necessary restoration to existing conditions.
20. Provide all traffic control related to this scope of work. Include all necessary permits through New Hanover County and/or NCDOT for any road or lane closures. No work performed within this scope shall disrupt the daily activities of the neighboring schools, emergency facilities or businesses.
21. Contractor will responsible for all "birdbath" repairs prior to final lift of asphalt being placed. Flood test will be required.
22. Asphalt price fluctuations will be adjusted in accordance with NCDOT Monthly Terminal FOB Asphalt Binder Price
    The NCDOT post the FOB terminal index price on it's website at the following address; http://www.ncdot.org/doh/operations/dp_chief_eng/constructionunit/paveconst/Asphalt_Mgmt/acprices/. The percent of asphalt binder used to calculate the price adjustment for this project will be 6.7% and the formula used to calculate the increase OR decrease is as follows: A=B X (D-C) X E where:
    i. A = the adjusted contract
    ii. B = tons of asphalt at the new index price
    iii. C = posted index price at the time of bid
    iv. D = posted index price at the time of construction

v. E = percent of asphalt binder (6.7% for this project)

23. BIDDER SHALL FURNISH ASPHALT TONNAGE **AND** THE BID PRICE OF ASPHALT ON THE BID FORM.
24. All site striping & pre-cast wheel stops shall comply with the Plans and Specifications.
25. Provide and install all site, specialty, and special parking and directional signage as indicated on Plans and in Specifications. Coordinate surveyed sign locations with landscape installations. Any discrepancies shall be brought to the attention of the Construction Manager prior to installations.
26. This Contract includes the examination of the sub-grade of all associated areas included in this scope of work prior to installations in this scope of work for compliance with tolerances prior to placement of paving. Installation of pavements confirms acceptance of installed sub-grades by the Paving Subcontractor. Paving Subcontractor shall repair valve boxes, etc. damaged during installation operations.

ALL CONCRETE PAVING AND SIDEWALKS INCLUDED:

1. Include all staking/surveying/layout for this scope of work.
2. All equipment as needed to perform this scope of work and unload deliveries
3. Include all necessary mobilizations and material/equipment staging relocations as required to facilitate construction progress and/or as directed by Construction Manager.
4. All Work shall be in accordance with plans and specs and local AHJ.
5. All reinforcing steel materials/accessories and installation, including delivery and NC Sales Tax, including welded wire fabric, necessary supports, protective caps, etc. required for this scope of work.
6. All concrete materials required for this scope of work including pumping or conveyance.
7. All required finishes per Contract Documents.
8. All concrete paving including sidewalks/pavement, handicapped access, exterior housekeeping pads, reinforced concrete paving, ramps, curb/gutter, including all prep work under this scope of work as outlined for Work in accordance with all Project Documents and all work to be performed. Include all exterior housekeeping pads (i.e. for condensing units, chillers, generators, etc.).
9. Installation of all sidewalk associated with the mobile units as shown on the contract documents.
10. All concrete sidewalk edges and control/expansion joints shall be tooled correctly per the contract documents.
11. Installation of site benches as listed on C2.0. concrete pad below or post set in concrete.
12. Installation of pork-chop island at the intersection of McLaurn and Danny Pence Dr
13. Installation of any and all raised median dividers (NOTE E) called out on C2.0.
14. All expansion joints in sidewalks/curbs that receive caulking per Plans and Specifications to be installed with proper amount of recess to allow for required caulking and “Zip Strips” (regardless of contract documents) cover per sealant manufacturer required bond breaker.
15. All subgrade compaction if required by specifications.
16. Furnish and install all detectable warning surface as required per Plans and Specifications.
17. Reference Plans and detail sheets and Specifications for clarifications to construction and finishes of work within this Scope.
18. Saw-cut all concrete paving as required per Plans and Specifications and as may be required to control cracking.
19. This contractor will be responsible for all excess spoils and concrete debris associated with this scope of work
20. Verify all final elevations of sewer lids, grates, manholes, inlets, etc. are installed at proper elevations prior to placement of concrete.
21. Implement necessary protective measures to protect adjacent structures/finishes, completed concrete/pavement from unnecessary traffic. Coordinate with Construction Manager.
22. Installation of pipe bollards as indicated on Plans and Specifications including concrete fill (bollards provided by BP500).
23. Dewatering of this scope of work as may be necessary to facilitate completion of the work.
24. All Off Site work by this contractor including necessary restoration to existing conditions if applicable.
25. Proper installation & compaction of all subgrade materials in accordance with the Specifications and the Owner’s independent testing agency.
26. Include all Mockups/Samples as may be required per Plans and Specifications, to be completed at the direction of the CM
27. Include replacement of all stress cracked concrete prior to final completion and as directed by the CM.

Priority Task Items:
1. As directed by Construction Manager.

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1. Carry $10,000 for unknown conditions related to roof drain leader connection at the main entrance of the school. Reference note on C5.0 for description.

Unit Prices:
1. Rate per laborer hour regular time.
2. Provide rate per cubic yard for removal of unsuitable soil
3. Provide rate per cubic yard for install of select fill
4. Provide rate per cubic yard for install of washed 57 stone
5. Provide rate per cubic yard for install of ABC

Alternates:
C-1 Traffic Circle
C-2 Asphalt Coating & Striping

END OF SECTION

Bid Package: BP 290 – LANDSCAPING

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 3 (all sections as they apply to this scope)**
- **Division 4 (all sections as they apply to this scope)**
- **Division 5 (all sections as they apply to this scope)**
- **Division 6 (all sections as they apply to this scope)**
- **Division 10 (all sections as they apply to this scope)**
- **Division 31 (all sections as they apply to this scope)**
- **Division 32 (all sections as they apply to this scope)**
- **Division 33 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Landscaping as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Provide all fabrication, delivery, materials and unloading/stocking as required for the Work.
3. Provide all layout as needed to complete this scope of work.
4. Daily cleanup will be required. CM will provide dumpster near the office trailer.
5. It is desirable for all landscaping to be completed prior to resurfacing of asphalt.
6. All permanent seeding and matting including erosion control materials and maintenance, ONSITE and OFFSITE, in accordance with plans and specifications.
7. All Off Site work by this contractor per Contract Documents as it relates to this Scope of Work.
8. All plant materials, trees, shrubs, lawns, no-mow vegetation, sod areas, topsoil soil amendments, fertilizers, herbicides and mulches, stakes and guy wires, landscape edging, anti-dessicant, wrapping, weed control fabric, planting area and plant bed preparation, etc. Reference Civil Plans for required trees/plantings/etc.
9. All mulch and mulch placement. Mulch to be provided per specifications and must be approved by Landscape Architect prior to installation.
10. No rocks allowed in surface soils to receive seed per the specification.
11. All maintenance/watering (including water source) of all sod/lawns/plants/etc. as specified until the date of Final Completion per Contract Documents.
12. Staking and support of trees.
13. Landscape edging.
14. All required **brick unit/pavers** in the courtyard area. Including base, edge strips, sand, polymeric sand, fine grading for subbase, sweeping and cleaning.
15. All sod, lawn areas, topsoil/soil amendments, etc., to include initial watering and maintenance thru germination and in accordance with project specifications for coverages.
16. Work to include all fine grading.
17. Initial placement of topsoil by others.
18. Coordinate plantings placement with traffic signage to promote clear lines of sight to identification signage.
19. Check elevations of manholes, catch basins, valves and inlets, etc. are coordinated to finish grades as required on landscape drawings. Coordinate with BP250 for leveling manhole and structure frames prior to seed placement.
20. Include all necessary coordination and inspection with Landscape Architect and local municipality.

21. Include all Mockups/Samples as may be required per Plans and Specifications, to be completed within 90 to 120 days from NTP (notice to proceed) or LOI (letter of intent).
22. All requirements for Substantial and Final Completion as per specifications.
23. Subcontractor to provide and install any sleeves required for this scope of work.
24. There will be work dealing with the installation of the mobile units (this will be a separate permit) will be included in this scope. Reference AM1.0, C2.0 –C6.0, and E1.41 & E1.42 for requirements
    a) Fine grading and raking around mobile units following completion
    b) Include Seeding/straw/binder
    c) Include weekly watering and maintenance until germination (re-seeding as needed)

Priority Task Items:
1. As directed by Construction Manager.
2. The contractor shall **NOT** be compensated for additional watering costs for plantings which are installed during the summer as per specifications.
3. Plant material shall not be delivered to the site more than 72 hours before planting takes place. The landscape architect reserves the right to reject all material not planted within that time period unless the landscape contractor makes heeling-in and irrigation provisions within 24 hours of plant delivery as per specifications.

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1. Not applicable.

Unit Prices:
1. Not applicable.

Alternates:
None

END OF SECTION

Bid Package: BP 390 – TURNKEY CONCRETE

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 3 (all sections as they apply to this scope)**
- **Division 6 (all sections as they apply to this scope)**
- **Division 7 (all sections as they apply to this scope)**
- **Division 14 (all sections as they apply to this scope)**
- **Division 31 (all sections as they apply to this scope)**
- **Division 32 (all sections as they apply to this scope)**
- **Division 33 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Turnkey Concrete as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. This contractor will provide all staking/surveying/layout for this work.
3. Complete all Work in accordance with local, state and federal (OSHA) safety regulations and/or requirements.
4. Coordination with special inspector/testing agency as required. CM will schedule
5. Include necessary mobilizations and material/equipment staging relocations as required to facilitate construction progress and/or as directed by Construction Manager.
6. Provide all fabrication, delivery, materials and unloading/stocking as required for the Work. Unloading of all items as pertains to this scope of work (including items furnished by others to be installed under this contract).
7. All housekeeping pads as required for this scope of work or as required per Plans and Specifications. Coordinate with BP1540, BP1550 and BP1600 for required sizes, layout, finishes, etc. for a complete installation of this Work.
8. All Concrete Locker Bases as per Contract Documents if required in locker room space.
9. All concrete materials required for this scope of work. Include all excavation, all preparations and placement of building foundations and slabs. NOTE: ALL sidewalks are provided by BP250
10. All backfill and fine grading associated with item above in accordance with the contract requirements.
11. Included in this scope, any additional excavation spoils following completion of this scope will be hauled offsite and disposed of.
12. Include all installation of all reinforcing steel materials/accessories, including but not limited to any necessary supports, welded wire mesh, foundation steel, epoxy, dowels, sleeves, mesh supports, etc. required for this scope of work. Include installation items provided by BP 500 (Anchor bolts, nuts and washers, and any steel embedded items). Setting (1) anchor bolt per set to correct elevation and marking with spray paint.
13. Setting anchor bolts and embedded plates/angles/dowels/sleeves, etc. Setting of all leveling nuts to elevation of column base plates.
14. Provide anchor bolt survey and Any/ALL repair work to anchor will be complete prior to BP 500 mobilizing.
15. It is the responsibility of this contractor to protect anchor bolts following placement and turn over to BP 500 clean
16. Vapor barrier installation as required per plans and specifications.
17. Formwork at doors, windows, etc. and all edge forming as necessary.
18. Column isolations and grouting of base plates.
19. Include all concrete reinforcement that develops from footing and ties into masonry (with proper lap splice as required). Include in shop drawings at such conditions. BP 400 will be responsible for all reinforcement following.

20. Curing compounds or other specified curing methods – furnish and install per specifications, including all concrete sealing/curing material and application.
21. All required finishes and floor flatness per Contract Documents.
22. Include all key joints, control joints, isolation joints, contracting joints, expansion joints, construction joints, column blockouts, sawcutting and chamfer strips as required and/or indicated on Contract Documents.
23. Placing and finishing of slabs as specified (including all pumping or conveyance) – slabs on grade, repaired areas, installation of inserts and accessories as shown on drawings and in specifications, etc.
24. It is the responsibility of this contractor to saw cut (wet cutting and associated cleanup) and remove from site all concrete as associated with this scope of work. All concrete demo to allow for new work to be installed (i.e. crack called out on the drawings in classroom C 17, footing locations, and in locker room). All sawcuts will be straight and true as terrazzo will transition at this location.
25. Refer to S2.01; existing girder to be shored by BP220 so that existing tube columns and perimeter girders can be demo'd by BP220. Shoring to be left in place, to be removed by BP500 upon installation of new steel. (Slab/foundation demo by BP390) Be careful not to disturb shoring during concrete demo operations.
26. Traffic control as required for this scope of work.
27. Daily cleanup of this scope of work.
28. Hot and cold weather concrete measures and protection as required completing this work.
29. Dewatering and pumping of water for this scope of work as necessary.
30. All necessary demo/restoration to existing conditions as necessary for this scope of work.
31. Rebar caps furnish/install and maintain for duration of this scope of work.
32. Coordinate all work with other trades.
33. All necessary remedial work such as rubbing/patching, point up as needed for this scope of work to be in conformance with Contract Documents.
34. All termite treatment as indicated on plans and specifications including, but not limited to surface preparation of treatment area, foundations, masonry, penetrations, treatment of area under all slabs on grade, foundations, columns and perimeter treatment around buildings. Include all warning signage per specifications. Include necessary coordination and inspection with CM. Include submittal of all required documentation for each treatment. Include multiple mobilizations as required to facilitate construction progress and/or as directed by CM. Include warranty per specifications. Start of warranty to be coordinated with CM. Treatment to occur prior to any concrete/mud sill installation. Treatment to occur before any Mud Mats. No change orders will be accepted for additional mobilizations.
35. Include any Concrete Admixtures called out in the Specifications.

Priority Task Items:
1. As directed by Construction Manager.

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1. None.

Unit Prices:
1. Rate per laborer hour regular time
2. Rate per laborer hour overtime
3. Rate per finisher hour regular time
4. Rate per finisher hour overtime
5. Rate per supervisor hour regular time
6. Rate per supervisor hour overtime
7. Rate for Undercut & Removal per cubic yard and replace with ABC Stone
8. Rate for Undercut & Removal per cubic yard and replace with Concrete

Alternates:
G-2 Athletic Support Space Renovations (This one involves P, M & E work)

END OF SECTION

Bid Package: BP 400 – TURNKEY MASONRY

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 3 (all sections as they apply to this scope)**
- **Division 4 (all sections as they apply to this scope)**
- **Division 5 (all sections as they apply to this scope)**
- **Division 7 (all sections as they apply to this scope)**
- **Division 8 (all sections as they apply to this scope)**
- **Division 9 (all sections as they apply to this scope)**
- **Division 10 (all sections as they apply to this scope)**
- **Division 11 (all sections as they apply to this scope)**
- **Division 14 (all sections as they apply to this scope)**
- **Division 31 (all sections as they apply to this scope)**
- **Division 32 (all sections as they apply to this scope)**
- **Division 33 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Turnkey Masonry as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Provide all fabrication, delivery, materials and unloading/stocking as required for the Work.
3. Provide all layout as needed to complete this scope of work.
4. All equipment for this scope including unloading
5. Dumpster provided by CM located near office trailer
6. All concrete materials required for this scope of work.
7. All masonry and associated reinforcement/grout necessary for a complete scope of work.
8. All reinforcing steel materials/accessories and installation per Plans and Specifications, including delivery and NC Sales Tax, including necessary supports, protective caps, rigid anchors, masonry-veneer anchors/ties, brick-veneer anchors/ties, wall bolsters, wall reinforcement, masonry walls, load bearing walls, weld on masonry ties, horizontal joint reinforcement, etc. required for this scope of work.
9. All masonry wall reinforcing/anchors/weld on masonry ties, etc.
10. All miscellaneous masonry accessories.
11. All block regardless of size, shape, and location. NOTE: bullnose not required at all corners, only where called out on the architectural drawings.
12. All brick regardless of size, shape and location.
13. Solid brick/CMU at window sills and half high walls.
14. All necessary sand and mortar (regular and colored) as required per Specifications.
15. All necessary flashings/weeps/mortar net. Include weep hole testing as required per Specifications.
16. Furnish and install all rigid mineral wool insulation where it occurs directly behind brick veneer proud of the weather barrier. Rigid mineral wool insulation behind metal panels by others.
17. Block out for all accessories that are recessed in walls (fire extinguisher cabinets, toilet accessories, windows, etc.)
18. All necessary brick/block cleaning, point up, etc.
19. All ground face units and specialty units.

20. All brick/block ties installation at metal stud veneer locations.
21. All CMU tight to deck and fire stopping to top of deck.
22. All column wraps.
23. All setting of hollow metal door and window frames in masonry walls, including anchors (BP800 will furnish all frames only).
24. All necessary unloading and distribution of materials for this scope of work.
25. All concrete block fill installation for CMU including any pumping required and grouting of joints below FFE.
26. All control joint and expansion joint materials.
27. Scaffolding/equipment required for this scope of work. Scaffold erection, areas and durations shall be coordinated with the Construction Manager so as to maintain safe access for all other subcontractors. Include all covered walkways beneath scaffold systems as may be necessary and multiple relocations as directed by Construction Manager. **Competent person training certificates required**
28. All bracing of walls as needed.
29. All top of wall conditions at masonry walls per Project Documents.
30. Installation/setting of steel lintels, bearing and leveling plates, shelf angles, etc. (furnished by others). All steel to steel welding is performed by BP500.
31. Unload/disbursement of materials for this scope of work including items furnished by others but installed in this package.
32. Grouting of hollow metal frames in masonry walls per Specifications.
33. Grouting of all required items included in this scope of work which require grouting per Plans and Specifications.
34. Brick/Block pockets and infill of same for steel, etc. Coordinate with BP500.
35. Hot and cold weather measures as necessary to facilitate completion of this work.
36. Protection of this work until contract completion.
37. All fire safing/fire stopping of this scope of work.
38. All masonry cleaning per Specifications.
39. All bond beams/concrete lintels as indicated.
40. Rebar caps furnish/install and maintain for duration of this scope of work.
41. Dewatering as required for this scope of work.
42. Replacement of all faced block in the bathrooms and locker room area following BP1540 completion of inwall rough in. BP1540 to remove as few blocks as needed to facilitate this work.
43. CM will coordinate with special inspector/testing agency as required. Correct any/all deficiencies as noted.
44. **Contractor shall include the repair of all land disturbances caused by equipment utilized by this Scope, regardless of wet/dry conditions. This is to include excessive rutting, damages to erosion control devices and temporary or permanent roads, curbs and gutter, etc. Coordinate with Construction Manager for transporting materials to and from work areas.**
45. Furnish and install all flashing that ties into masonry.
46. All substrates scheduled to receive waterproofing, air barrier, etc. will be inspected prior to installation of veneer by Construction Manager and/or Owner's 3rd Party inspection agency. Install veneer ONLY after having received authorization from Construction Manager. Veneer installed without authorization from Construction Manager shall be removed for inspection and reinstalled (or replaced if damaged during removal process) at no additional cost.
47. Include all Mockups/Samples as may be required per Plans and Specifications, to be completed within 30 to 60 days from NTP (notice to proceed) or LOI (letter of intent).
48. Existing Knox Box to be salvaged and reinstalled by this package.
49. Included in this scope of work will be demo of all HMF called out on the DEMO drawings, repair of damage adjacent CMU to be included. All demo on interior of the school will be dustless.
50. Also following the above line item, setting of all new HMF's in existing openings and new, grouting of the same, all anchoring hardware included (expansion or epoxy sleeve) by BP 400
51. All mixing (with sand box) will be at central location near the office trailer, and transportation to work area will be required
52. Where drawings indicate brick will be removed, clean and palletized by BP220. This package to reinstall as indicated on the drawings.
53. Spotters required for all operators while working on active campus
54. Daily cleanup (broom swept) of work area and mortar mixing station will be required. Excess debris caused by this contract will be cleaned up by the CM at the expense of BP 400.

Priority Task Items:
1. As directed by Construction Manager.
2. Pre-installation meeting including mockup meeting required per specifications.
3. Mockup/Samples

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1. 120hrs for patching of existing corridors above ceiling to maintain fire rating. Allowance tracked by CM

Unit Prices:
1. Rate per laborer hour regular time.
2. Rate per laborer hour overtime.
3. Rate per mason hour regular time.
4. Rate per mason hour overtime.
5. Rate per supervisor hour regular time.
6. Rate per supervisor hour overtime.
7. Rate per block to tooth out and replace

Alternates:
G-2 Athletic Support Space Renovations (This one involves P, M & E work)

END OF SECTION

Bid Package: BP 500 – TURNKEY STEEL

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 5 (all sections as they apply to this scope)**
- **Division 9 (all sections as they apply to this scope)**
- **Division 10 (all sections as they apply to this scope)**
- **Division 12 (all sections as they apply to this scope)**
- **Division 14 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Structural Steel as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Reference BP001 for required certifications to complete this scope of work, work in accordance with the indicated special inspections.
3. Provide all fabrication, delivery, materials and unloading/stocking as required for the Work.
4. Include all necessary unloading and hoisting for this scope of work.
5. It will be the responsibility of this contractor to make a site visit prior to installation to verify installed anchor bolts, prior to steel erection. This will be in enough time for BP390 to make any necessary repairs.
6. All steel columns, beams, joists, HSS members, bent plates, cross bracing, erection, connections, decking, girders, channels, all accessories, etc. Beam members are to be set with natural camber up and camber is furnished where required.
7. Vertical control will be provided by CM
8. CM to provide dumpster for general CD, all Metal will be in separate dumpster also provided by CM. All material delivered and paid for on the project is the property of NHCSS.
9. Where new work will be taking place in the classroom bump-up and the main entrance, BP220 will demo the existing beams/structure/decking and provide scaffold and building wrap to elevation 8' higher than roof elevation. All beams and girders will be set from the interior of the building under dry conditions
10. Any patching/reinstallation of roof decking at these areas will be the responsibility of this contractor at unit price below
11. Any damage to the scaffold or building wrap during this installation will be the responsibility of this contractor
12. All materials and hoisting equipment need for the install of these beams from the interior will be the responsibility of this contractor.
13. This package to furnish and install all metal roof decking, however metal roof decking installed onto structural stud joists (classroom bump-up ie Area B S2.02B) shall be installed by BP925 Metal Studs to facilitate dry-in. All other areas BP500 to install decking.
14. All existing steel will have lead paint abated prior to installation
15. This contractor will be responsible for layout assistance for BP220 for the lead paint removal.
16. All anchor bolts, interior and exterior locations (furnish and deliver only). Coordinate with installing party through the Construction Manager for material turnover.
17. All floor, non-composite floor, acoustical and roof deck including all necessary closure plates, strips, studs, angles and sound absorbing batts.
18. Metal decking to be painted or primed shall not receive passivator per specifications.

19. All framing for all floor and roof openings – including all installations and any necessary removal of metal decking as may be directed by the CM.
20. All blockouts and openings per drawings – coordinate with other trades.
21. Installation of angles at masonry walls between joists as per Plans.
22. Include installation of all steel items bolted to concrete or masonry surfaces (including all anchors).
23. All top of CMU wall bracing to the structure per the plans and specs.
24. All steel lintels. Including galvanized
25. All steel to steel items are by this bid package.
26. All miscellaneous steel clips, embeds, angles, etc. All support steel at new roof and wall openings.
27. Repair of damaged surfaces on steel materials (i.e. touch up painting) to comply with Specifications. Cleaning of all exposed and/or painted steel free of mud, dirt, debris, etc. ready for paint by others.
28. All exposed welds shall be prepped in a manner to turn over clean and free of slag, primed, and presentable. Any remedial work needed to achieve this will be the responsibility of this contractor.
29. Install and maintain fall protection for this scope of work per OSHA standards and removal of when directed by Construction Manager.
30. All finishes required per specifications (primed/galvanized/etc.). Include field touch-up paint as may be required.
31. Field measuring as required. Provide engineered drawings/calculations per Specifications.
32. Submit structural welding and steel certifications requirements as listed.
33. CM will coordinate with special inspector/testing agency as required. Correct any/all deficiencies noted by special inspector or EOR.
34. Provide steel in (3) separate deliveries, all steel, bolts, angle, bar joist's, tube steel, connection plates, and decking. Delivery groups will be Main entrance, classroom roof bump up, and the courtyard steel
35. Provide (1) anchor bolt template for each type
36. Provide Anchor bolts immediately upon approved submittals
37. BP390 will turn over anchor bolts with (1) nut leveled and painted
38. Refer to S2.01; existing girder to be shored by BP220 so that existing tube columns and perimeter girders can be demo'd by BP220. Shoring to be left in place, to be removed by BP500 upon installation of new steel. (Slab/foundation demo by BP390)

Priority Task Items:
1. As directed by Construction Manager.

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1. Not applicable.

Unit Prices:
1. Rate per laborer hour regular time
2. Rate per laborer hour overtime
3. Rate per erector hour regular time
4. Rate per erector hour overtime
5. Rate per welder hour regular time
6. Rate per welder hour overtime
7. Rate per supervisor hour regular time
8. Rate per supervisor hour overtime
9. Rate for crane operator regular time.
10. Rate per sheet for replace and re-install existing roof decking where damaged

Alternates:
G-2 Athletic Support Space Renovations (This one involves P, M & E work)

END OF SECTION

Bid Package: BP 620 – MILLWORK

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 5 (all sections as they apply to this scope)**
- **Division 6 (all sections as they apply to this scope)**
- **Division 7 (all sections as they apply to this scope)**
- **Division 10 (all sections as they apply to this scope)**
- **Division 12 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Millwork outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Daily cleanup will be required, CM will provide dumpster located near the office trailer
3. Furnish, deliver, uncrate, and install, but not specifically limited to, the following items: Sills, plywood & utility shelving, wood shelving, display cases, clothes rods, coat hooks, all accessories and miscellaneous materials/hardware, plastic laminate casework, music casework, architectural casework, art room casework, shelf supports/standards, hardware, countertops, wall shelving, wall hung cabinets, base cabinets with countertops, mailboxes, interior wood trim, interior standing & running trim, vanities, music instrument storage cabinets, etc.
4. All finish carpentry and trim, as it relates to this scope of work (i.e. painted shelving units, wood benches, etc.) per Plans and Specifications.
5. All wood shelving in storage rooms per spec.
6. All educational/institutional casework.
7. Include any and all HPL, solid surface, and SPS countertops that is called out on the drawings
8. All spare parts, keys, and O&M Manuals must be turned over and signed for by BCC representative. Leaving with equipment is not acceptable.
9. Ensure compliance with ADA Standards for all necessary items pertaining to this scope of work.
10. Contractor to provide accurate rough in dimensions for required blocking to CM prior to construction of walls, BP 925 to install.
11. Cleaning and touch up work of any damaged or soiled areas at completion of installation to match original factory finish. (use of a 3rd party repair/restoration contractor will be the responsibility of this scope)
12. All work to be installed free from scratches, chips, or dents. Field repairs, if required, shall be reviewed by Construction Manager prior to Completing repairs at no cost to the owner.
13. ALL Caulking of finish carpentry and casework components to similar and dissimilar materials and caulking of countertops, backsplashes, cabinetry, etc. will be included, all caulk to be color matched.
14. Protection of work as required per specifications
15. Field measuring as required prior to fabrication.
16. All warranties including any special warranties required per specifications.
17. BP620 will coordinate with BP1540 for sink locations and all related plumbing work. BP620 to provide openings for the plumber.
18. BP620 will coordinate with BP1600 for any necessary electrical requirements associated with this scope of work.
19. Delivery of casework will be multi-phased to facilitate construction progress and as directed by Construction Manager.

20. Contractor will coordinate with Construction Manager to insure necessary building conditions (humidity controls) are established before installation of this scope of work.
21. All punchlist work included
22. Include all Mockups/Samples as may be required per Plans and Specifications, to be completed within 30 days from NTP (notice to proceed) or LOI (letter of intent).

Priority Task Items:
1. As directed by Construction Manager.

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1. Not applicable.

Unit Prices:
1. Not applicable.

Alternates:
G-2 Athletic Support Space Renovations (This one involves P, M & E work)

END OF SECTION

Bid Package: BP 740 – ROOFING

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 3 (all sections as they apply to this scope)**
- **Division 5 (all sections as they apply to this scope)**
- **Division 6 (all sections as they apply to this scope)**
- **Division 7 (all sections as they apply to this scope)**
- **Division 8 (all sections as they apply to this scope)**
- **Division 10 (all sections as they apply to this scope)**
- **Division 22 (all sections as they apply to this scope)**
- **Division 23 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Roofing as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Provide all fabrication, delivery, materials and equipment for unloading/stocking as required for the Work.
3. CM to provide dumpster for this scope of work.
4. Included in this contract will be the prep of existing roof to receive the new roof, including all DEMO notes on R1.0. This package to protect all occupied spaces while the demolition work is being performed.
5. In general the expectation is for this bid package to cover all scope indicated on sheets R1.0 & R1.1.
6. All wood blocking, wood nailers and fasteners as necessary for this scope of work. Include installation of all top of parapet wall blocking. Include furnish and installation of ALL bent plate as required for this Scope of Work.
7. Furnish and install ALL flashing and sheet metal per the plans and specifications for a complete system. Include all membrane roofing, walkpads, metal coping, fascia coping, counter flashing, counter flashing clips, base flashing, reglets, scuppers, gutters, downspouts, downspout boots, sealants, underlayment materials, encapsulating layers, expansion joints, fasteners, clamps, terminations/trim, closures, metal nosings, miscellaneous materials, etc. for a complete and functional weather tight system per Contract Documents. NOTE: Only where metal panels transition to roof, BP742 will provide the receiver flashing behind the metal panels so that the color will match.
8. Coordinate flashing requirements with adjacent work to insure a weather tight system.
9. All roof curbs other than as provided by others (BP1550 to provide mechanical roof curbs).
10. It will be the responsibility of this contract to coordinate with BP1550 to coordinate demo of existing roof curbs and installation of the new. Patching back of the roof to a dried in condition **SAME DAY**. We will plan to demo and install as many as possible in one day. This will take multiple days and will be coordinated in the field following contract. Assume max 4 per day.
11. All roof accessories per Specifications.
12. Provide fasteners as required per Specifications, no exposed fasteners permitted on horizontal surfaces.
13. All roof insulation, gypboard for roof assemblies, vapor barrier for roof work, soffit and j channel (Hat channel at soffits provided by BP 925), downspout transitions and boots, tie-off hook flashing, ridge cap, etc.
14. Coordinate the tie in of roof and overflow drain piping with plumbing contractor (roof and overflow drain supplied by plumbing contractor and installed by this scope of work).
15. Provide and install all insulation board, accessories, etc. for a complete installation.
16. Batt insulation as required.

17. All vent pipe flashing as required.
18. All caulking/sealants related to this scope of work.
19. At the end of each day, protect interior from weather damage at all roof opening, new roof curbs, exposed decking, or roof under repair.
20. Misc patching of roof decking as needed to install new curbs or where existing curbs are removed and not replaced.
21. Furnish & install walk-pads as required.
22. Provide boot/flashing for PME equipment & penetrations. All coordination for all roof penetrations with PME contractors.
23. Furnish surplus roofing material to BP1540/BP1550 to install between pipe supports and new roof.
24. Coordinate with all necessary parties to meet inspection and testing requirements as outlined in the Specifications.
25. Roofing Flood Tests if required per Specifications.
26. All warranties as required per Specifications.
27. Include all Mockups/Samples as may be required per Plans and Specifications, to be completed within 90 to 120 days from NTP (notice to proceed) or LOI (letter of intent).
28. Include all splash blocks per Contract Documents.
29. Include Temporary Dry-in/Protection of Roof
30. Final cleaning of roof prior to building turnover is by this scope of work.

Priority Task Items:
1. As directed by Construction Manager.
2. Pre-installation conference and mockups as required in Specifications.
3. Mockup/Samples

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1. Not applicable.

Unit Prices:
1. Rate per square foot to remove and replace metal roof decking due to existing damage.
2. Rate per laborer hour regular time.
3. Rate per laborer hour overtime.
4. Rate per installer hour regular time.
5. Rate per installer hour overtime.
6. Rate per supervisor hour regular time.
7. Rate per supervisor hour overtime.

Alternates:
None

END OF SECTION

Bid Package: BP 742 – METAL WALL PANELS

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary for Metal Wall Panels:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 5 (all sections as they apply to this scope)**
- **Division 6 (all sections as they apply to this scope)**
- **Division 7 (all sections as they apply to this scope)**
- **Division 8 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Metal Wall Panels as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Provide all equipment needed for delivery and unloading/stocking as required for the Work.
3. Provide all labor, material, fabrication, and services necessary to provide turnkey installation of all metal wall panels per Plans and Specifications. Coordinate installation of external wall studs/furring strip for metal/aluminum wall panels. All anchors, screws, inserts, fasteners and accessories. Factory finish per Specifications. This bid package shall verify the alignment of structural support and wall opening dimensions by conducting field measurements prior to panel fabrication. Any corrections necessary shall be completed prior to panel installation. This bid package shall remove all protective materials, coverings, strippable films and labels as panels are installed. Final cleaning at the direction of the Construction Manager. Work is to be coordinated with metal stud installation in BP925 and masonry in BP400.
4. Furnish and install ALL flashing and sheet metal per the plans and specifications that interfaces with the metal wall panels. Include all counter-flashing, counter-flashing wind restraint clips, base flashing, jamb flashing, head flashing, sill flashing, metal trim, coping and all other sheet metal accessories and materials.
5. Refer to details, this package to provide and install metal sill trim & cleat continuous with end dams at interface with Aluminum Storefront; refer to detail 16/A5.0 and Metal Head Trim per detail 6&7/A5.0.
6. Supply and install all sheet metal accessories needed for a complete system as called out in the plans or specs including but not limited to: intermediate sub framing, z girt, fasteners, blocking, and shims as required to provide a complete, flush system per the plans and specifications.
7. Supply and install all joint sealers, gaskets, joint fillers and sealants required for weatherproof performance of metal wall panel assemblies.
8. CM to provide dumpster for general CD, all Metal will be in separate dumpster also provided by CM. All material delivered and paid for on the project is the property of NHCSS.
9. This package is responsible for coordinating all metal wall panel assemblies with rain drainage work, flashing, trim, and construction of secondary framing and supports and other adjoining work to provide a leak-proof, secure, and non-corrosive installation. Subcontractor must also coordinate all work with the Roofing Subcontractor to insure a leak-proof system.
10. Include all system components, including but not limited to: attachment systems, miscellaneous metal framing, any and all accessories such as trim, closure strips, flashings, z-girts/hat track, furring strips etc. for a complete weather-tight, flush wall system.
11. Include all miscellaneous backing and blocking as required to provide a complete assembly. Blocking and backing required, but not shown on architectural drawings is the responsibility of this package.

12. Include site visitation(s) prior to mobilizing for installations to perform any and all necessary field measuring to verify support and structure conditions at locations where metal panel systems are to be installed. Any areas found to be non-compliant must be reported to the Construction Manager the same day of discovery. This bid package shall be responsible for all field measuring as necessary prior to panel fabrication.
13. Subcontractor to include all touch-up and final clean.
14. Include closure strips on all panels as indicated or required.
15. Furnish and install all rigid mineral wool insulation where it occurs directly behind the metal panel system and proud of the weather barrier.
16. Coordinate with Construction Manager and all other trades regarding penetrations of metal panel systems to facilitate other trades work. This Scope shall be responsible for ensuring all penetrations through metal panels are sealed and weather-tight with approved color match sealant
17. Substrates will be inspected prior to installation of metal panel systems by Construction Manager and/or Owners 3rd Party inspection agency. Install metal panel systems ONLY after having received authorization from Construction Manager. Metal panel systems installed without authorization from Construction Manager shall be removed for inspection and reinstalled (or replaced if damaged during removal process) at no additional cost.
18. Include all samples, certificates, design data, submittals, etc. per Specifications.
19. Provide fasteners as required per Specifications, no exposed fasteners.
20. Include all caulking and sealants related to this scope of work.
21. Include protection of building interior from weather damage at any/all incomplete areas in cases such as missing materials, rework due to poor workmanship or unacceptable or damaged materials, etc.
22. Coordinate with all necessary parties to meet inspection and testing requirements as outlined in the Specifications.
23. All warranties as required per Specifications.
24. Include all Mockups/Samples as may be required per Plans and Specifications, to be completed within 30 days from NTP (notice to proceed) or LOI (letter of intent).
25. Furnish and install all formed aluminum trim.
26. Coordinate with other trades where Metal Wall Panels tie-into other materials as required for a complete and functional system per Contract Documents.

Priority Task Items:
1. As directed by Construction Manager.
2. Pre-installation conference and mockups as required in Specifications.
3. Mockup/Samples

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1. Not applicable.

Unit Prices:
1. Rate per installer hour regular time.
2. Rate per installer hour overtime.

Alternates:
None

END OF SECTION

Bid Package: BP 790 – CAULKING & WATERPROOFING

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 7 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Caulking and Waterproofing as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Provide all fabrication, delivery, materials and unloading/stocking as required for the Work.
3. CM to provide dumpster for CD onsite
4. This scope will include ALL caulking of masonry expansion control joints, construction joints in cast in place concrete interior **only**, interior vertical/horizontal joints between different materials, vertical control & expansion joints on exposed interior surfaces of exterior walls, interior perimeter joints of exterior openings, vertical joints on exposed surfaces of interior unit masonry and concrete walls and partitions, interior control/expansion/isolation joints in horizontal traffic surfaces of concrete slabs, interior acoustical joints in vertical surfaces & horizontal non-traffic surfaces, etc.
5. Caulking of any item requiring backer rod.
6. Caulking of all interior corners of CMU walls
7. All caulking behind curb and gutter at sidewalks, sidewalk expansion joints and concrete paving
8. Caulking of all interior and exterior HM/Steel door frames to drywall, CMU, concrete, etc.
9. Caulking of all louvers, interior and exterior.
10. Caulking of exterior downspout boots at downspout and at concrete.
11. Caulking at plumbing fixtures and toilet partitions, including exterior hose bibs
12. NOTE: CAULKING OF STOREFRONT AND CURTIAN WALL EXCLUDED
13. Caulking of brick return to alum trim; refer to 11/A5.0
14. Include all top of wall fire rated closed cell spray foam for sealing of exterior walls called out on the contract documents. Coordinate with CM on phasing of this scope.
15. All brick sealer and prep required by manufacturer to install included.
16. Include all Mockups/Samples as may be required per Plans and Specifications, to be completed within 90 to 120 days from NTP (notice to proceed) or LOI (letter of intent).
17. All below grade waterproofing / dampproofing up to bottom of masonry thru wall flashing, including compliance with Air Barriers and Air Barrier Systems provided by others.
18. All interior and exterior required caulking at masonry to masonry and masonry abutting dissimilar materials.
19. Furnish and installation of all Air Barriers on **all new work only** for a complete system and installation of the work as required per Contract Documents including but not limited to behind all brick veneer, behind metal wall panels, over CMU and over metal angles/steel/plates/light gauge metal framing/metal studs/etc. Include all sealants and accessories for a complete system. Include tie-ins to all roof areas, below grade areas, etc. per plans, specifications and manufacturers recommendations for a complete building envelope.
20. Subcontractor is required to be accredited by the Air Barrier Association of America (ABAA).

Priority Task Items:
1. As directed by Construction Manager.

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1. Provide an additional 300 LF of caulking work as requested by Construction Manager. Additional caulking will be tracked via daily reports and any remaining unused additional caulking will be credited back to the CM/Owner at the lineal footage rate for this work.

Unit Prices:
1. NA

Alternates:
G-2 Athletic Support Space Renovations (This one involves P, M & E work)

Exclusions to this Scope of Work:
1. Caulking at casework, cabinets and countertops by BP620.
2. Paint related caulk by BP990.
3. Caulking of interior and exterior storefront and curtain wall by BP840

END OF SECTION

Bid Package: BP 800 – DOORS/FRAMES/HARDWARE

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 8 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Doors, Frames and Hardware Materials as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Inclusion Items as applicable to complete Work.
2. All furnish/delivery/unloading/stocking/installation/adjustment including, but not specifically limited to the following items:
    a. All HM frames (furnish/delivery/unload/protection and stock only – NO install).
    b. Wood doors.
    c. Finish Hardware including all necessary adjustments.
    d. Key Cabinet.
    e. Knox Box/Vault – Existing to be relocated by others
    f. Door Thresholds.
3. Furnish and turnover to BP400 the HMF for masonry openings. Expedite this frame submittal and delivery as this will be required before remaining frames.
4. Furnish and turnover to BP925 the HMF for metal stud openings. Expedite this frame submittal and delivery.
5. Furnish and turnover to Construction Manager/BP840 the door hardware for the aluminum doors including automatic door operators. Expedite this hardware submittal and delivery, as this will be required before remaining hardware. Hardware in Aluminum Doors will be installed by BP840.
6. All doors and frames to have correct fire labels either embossed or with metal label (no peel off labels permitted).
7. All doors/frames shall be marked in a conspicuous location with the applicable opening numbers.
8. All HM doors and frames shall come with sufficient primer to not rust. Prep door frames/doors to accept hardware.
9. HM frames shall be supplied with all necessary clips and attachments to install, include all glazing stops with screws (holes predrilled – no loose stops). Masonry installed by BP 400, and framed in metal studs will be installed by BP 925.
10. All new HMF's installed in existing openings will be dimpled for expansion type anchor, or sleeve and epoxy if CMU isn't filled. It is the responsibility of this bid package to prep/bondo/sand/prime for finished paint.
11. All wood doors to be pre-finished, fire rating labels attached with all louvers as indicated; package doors in accordance with specifications and include wood frames for light openings in doors, etc.
12. Ensure all doors are furnished with undercut as required per Plans and Specifications.
13. All doors to be keyed per NHCSS requirements. This subcontractor will be responsible for Keying meeting with CMR and NHC following submittal approval.
14. All door hardware, including but not limited to the following items: hinges, locksets/cylinders/keys, latch sets, bolts, closers, drop/adaptor plates (for storefront as required), mullions, protection plates, astragal's, door bumpers/stops/silencers/etc.
15. Included in this contract will be all electronic hardware per the plans and specs including but not limited to the following: door control devices including automatic operators/HC door openers, card readers, AD400 locksets, mag locks, AI phone and interface, FA door hold opens, electronic latches and panics, etc.etc.etc. Including all

building interfacing with NHCSS building automation software, for hardware only (**HM and Aluminum**). Building integrator must be S2 software certified (per the spec). CM will coordinate meeting with NHCSS locksmith BP 800 and BP 840 for all final coordination prior to the ordering hardware. BP 1600 will install all infrastructure and piping. BP 800 installer will be responsible for all LV wiring of said hardware back to 120V power supply.

a. **Typical MT11 Door**
   i. 1. Doors designated as having Electronic Latch Retraction (ELR) or Electric Strikes (ES) along MT 11 Readers will require (1) WRI Interface, (1) Door Position Switch, (1) Request to Exit Sensor and (1) MT11 Reader Per Door.
   ii. 2. Door Hardware Vendor shall provide and install Electronic Latch Retraction (ELR) or Electric Strike (ES), associated power supply, frame prep for electric strikes or power transfer hinge in door frame for ELR's.
   iii. 3. EC to provide raceways for Door Position Switches, Card Reader, Request to Exit Sensor and Power Transfer on hinge side of door.
   iv. 4. EC to provide 120vac for ELR power Supply.
   v. 5. Access Control Vendor shall supply and install all access control components including MT11 readers, Request to Exit Sensors, Door Position Switches, and WRI Interfaces.
   vi. 6. S2 Access Control Contractor shall enroll WRI Interfaces into the Owners Existing Access Control System including License Fees associated with enrollment.

b. **Typical AD400 Door**
   i. 1. Doors designated as having AD400 Locksets shall be pre-prepped by Door Hardware Vendor to accept RIM/Mortice/Cylindrical AD400 Locket to be provided by S2 Door Access Contractor.
   ii. 2. Door hardware Vendor shall install AD400 Lockets provided by S2 Door Access Contractor, Door Access Contractor will program and enroll AD400 Into Owners Existing Access Control System.

c. **PIM Locations**
   i. 1. S2 Access Control Contractor shall provide and install S2-PIM400-1501 with S2-EP1501 as designated on plans.
   ii. 2. Network Cable Contractor shall provide network cables to each PIM location shown on plans.
   iii. 3. Ceiling, Wall of Exterior Antennas shall be added to PIMs in locations where distance is a concern.

16. BP800 will furnish to BP840 all hardware per project specifications and drawings. BP840 must receive this hardware and install on all doors, frames, etc. for a complete installation. BP840 will provide a list of all required hardware, templates, etc. as required to BP800 for coordination and hardware buy out.
17. Doors and hardware are to be procured in full prior to installation, existing door frames will be removed by BP 400 in groups that can be re-installed immediately, this will be determined at the time of install. Intention is that doors are replaced and go into service immediately. All doors, hardware, and accessories need to be confirmed prior to BP 400 demoing said door.
18. This Subcontractor will coordinate with steel framing and masonry contractors, to insure door frames are installed correctly. This contractor will review the door frames during installation and confirm door frames openings have been installed correctly and will accept future doors. This subcontractor to issue a list for deficient openings. Verify substrate conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer's instructions. Verify openings are sized to receive the work and is in accordance with manufacturer's acceptable tolerances. Subcontractor acknowledges that the structural steel, metal framing, CMU, and concrete is installed to the tolerances required by their respective specification section(s) and any additional work required to accommodate these tolerances will be done at no cost to the Construction Manager and/or Owner.
19. Daily cleanup will be required
20. Include Owner's Training and Owner's Maintenance Stock.
21. Include 20 hrs of door repair man. i.e. ALKAT as directed by the CM
22. Field measurements as necessary.
23. All warranties. knowing that doors will be going into use immediately upon installation.
24. Coordination of this scope of work as it relates to work installed or provided by others.
25. Removal of all temporary labels and protective coatings/coverings after completion of installation of work.
26. Any bituminous paint as may be required by the Contract Documents.

27. There will be work dealing with the installation of the mobile units (this will be a separate permit) will be included in this scope. Reference AM1.0, C2.0 –C6.0, and E1.41 & E1.42 for requirements
    a. Assume (1) day for installer to punch exsiting mobile units to ensure all doors are swinging properly.
    b. AD400 locks to be operational (see above for requirements, including integration to NHCSS S2 software)
    c. NHCSS locksmith to punch all doors within the mobile units prior to occupancy, this contract will be responsible for all punchlist work.

Priority Task Items:
1. As directed by Construction Manager.

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1.

Unit Prices:
1. Rate per hour of door repair man (i.e. ALKAT)

Alternates:
G-1 Preferred Hardware
G-2 Athletic Support Space Renovations (This one involves P, M & E work)

END OF SECTION

Bid Package: BP 840 – STOREFRONTS, GLASS & GLAZING

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 5 (all sections as they apply to this scope)**
- **Division 6 (all sections as they apply to this scope)**
- **Division 7 (all sections as they apply to this scope)**
- **Division 8 (all sections as they apply to this scope)**
- **Division 10 (all sections as they apply to this scope)**
- **Division 26 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Storefronts, Glass & Glazing as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Provide all fabrication, delivery, materials and equipment for unloading/stocking as required for the Work.
3. Daily cleanup will be required, CM to provide dumpster located near the office trailer.
4. Include all equipment needed for access to complete this scope of work.
5. All field measuring, fabrication, furnishing and installation of new aluminum windows/storefront entrances, curtain walls, for a complete structural and weather-tight system including but not limited to the following items: aluminum windows, glass and glazing, all operable hardware, weather stripping, insect screens, muntin bars, trim and stops, metal panning/trim/accessories/etc., flat clad panels, interior and exterior caulking related to this scope of work, bituminous paint, concealed sealants, welding, setting blocks, shims, spacers, edge blocks, glazing points, angle clips, beads, application of interior and exterior trim/stops associated with the windows, and insulation as pertains to this work, etc. Include any and all structural support as may be required but not scheduled to be furnished by BP500.
6. All aluminum frames, aluminum doors (Hardware materials for aluminum doors to be supplied by BP 800 and installed as part of this package. BP840 to coordinate with Construction Manager for taking delivery of this hardware). BP800 will furnish to this bid package all hardware per project specifications and drawings. BP840 must receive this hardware and install on all doors, frames, etc. for a complete installation. Provide BP800 a list of all required hardware, templates, etc. as required to coordinate hardware buy out. NOTE BP800 will make ALL final connections to NHCSS S2 integrated software system. CM will coordinate meeting with NHCSS and BP800 for final coordination. Reference BP800 scope of work relating to electronic hardware.
7. NOTE: all exterior assemblies with doors, all pieces and parts must be in hand and procured at the time of demo and replacement. This will include all glass, glazing, trim, frames, doors hardware, accessories, etc.etc. these doors will go into service immediately upon replacement.
8. Subcontractor shall coordinate curtain wall and storefront assemblies with electrician (includes fire alarm), hardware, and security contractor, etc., so that outlets, switches, security devices, etc., can be rough-in flush. Provide all modifications as required to wall treatment panels so that the aforementioned devices, etc. can be installed flush with panels.
9. Include demo of existing storefront/curtianwall and surface prep of substrate to receive new storefront/curtain wall. NOTE: no demo and replacement will occur without ALL material and glass are onsite. Plan for

demo/replacement of the individual units to be the same day. Coordinate with BP 400 for repairs and masonry modifications where window sizes change.
    a. Included in the demo replacement scope will include but not limited to caulking, blocking, fasteners, flashings, any and all accessories to provide a complete system.
10. All aluminum materials and accessories needed for a complete system.
11. All necessary glass and glazing including, but not limited to the following: fire-protection-rated glazing, tempered glass, transom glass, frosted glass, tinted glass, glass in HM frames, HM doors, wood doors, steel doors, aluminum doors, FRP doors, aluminum storefronts, accessories, etc. as described in the contract documents
12. All necessary fasteners, flashings and/or break metal associated with this work.
13. Caulking of ALL interior and exterior window frames, including storefront and curtainwall.
14. Furnish and install all trim connecting window mullions to interior partitions.
15. Install and maintain temporary building enclosure at all window openings and storefront openings until frames and glass are installed.
16. Install automatic door opener(s) including all prep work. Coordination of this work as it relates to other trades.
17. Furnish and install all light shelves as indicated in 10/A3.2.
18. Furnish and install insulated wall panel for penetration of HVAC ductwork as associated with the gym units and shown on the contract documents
19. Install and maintain fall protection for this scope of work per OSHA standards and removal of when directed by Construction Manager.
20. Included in this scope is the main entrance aluminum canopy, refer to Section 10 7300 Protective Coverings. All supports and materials needed for complete installation. Coordinate with BP 500 and BP 925 on installation of embedded structural connections. Embedded structural connections provided and installed by BP840. Signage excluded.
21. Include all Mockups/Samples as may be required per Plans and Specifications, to be completed within 90 to 120 days from NTP (notice to proceed) or LOI (letter of intent).
22. All closed back framing members for aluminum windows/doors per Contract Documents.
23. Provide and install all sub sill pans set in sealant, shimming, and required flashing for Windows, Storefronts, and Curtain wall installation.
24. Refer to details, BP742 Metal Panels to provide and install metal sill trim & cleat continuous with end dams at interface with Aluminum Storefront; refer to detail 16/A5.0 and Metal Head Trim per detail 6&7/A5.0.
25. Furnish and install all sill extensions, infill panels, break metal, back boxes and flashing as it relates to this scope of work.
26. All welding pertaining to this scope (if required) is to be performed by certified welders.
27. In determining the location size and extent of structural support, back-up metal, points of attachment and bearing the Subcontractor shall refer to the Structural Drawings and Details.
28. Site Verification of Conditions: Verify substrate conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer's instructions. Field verify openings are sized to receive curtain wall system and sill plate is level in accordance with manufacturer's acceptable tolerances.
29. Seal all framed and glazed surfaces with specified sealant materials to assure waterproof installation. Verify compatibility of all sealants used with surrounding surfaces to assure bonding and avoid chemical incompatibility. Use bonding agents and/or primers as prescribed by the product manufacturer.
30. This Subcontractor is responsible for tying the systems as provided within this scope into the building air barrier at all exterior locations. Provide solid heads, jambs, and filler pieces as required.
31. Install curtain wall systems plumb, level, and true to line, without warp or rack of frames with manufacturer's prescribed tolerances and installation instructions. Provide support and anchor in place.
32. Field verify prior to fabrication and glass order.
33. Subcontractor is responsible for all testing as required by Project Specifications Provide all test equipment and access to areas to be tested per project requirements, locations TBD by Design team.
34. Store materials protected from exposure to harmful weather conditions. Handle storefront material and components to avoid damage. Protect curtain wall material against damage from elements, construction activities, and other hazards before, during and after curtain wall installation.
35. Final cleaning of store front and curtain wall will be included prior to turn over. Including minor touch up of painted surfaces.

36. During repair or replacement of damaged or improperly installed materials, provide all temporary protection of adjacent or finished work in place at time of remediation.

Priority Task Items:
1. As directed by Construction Manager.
2. Mockup/Samples

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1. Not applicable.

Unit Prices:
1. Not applicable.

Alternates:
None

END OF SECTION

Bid Package: BP 925 – METAL STUDS & DRYWALL

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 5 (all sections as they apply to this scope)**
- **Division 6 (all sections as they apply to this scope)**
- **Division 7 (all sections as they apply to this scope)**
- **Division 8 (all sections as they apply to this scope)**
- **Division 9 (all sections as they apply to this scope)**
- **Division 10 (all sections as they apply to this scope)**
- **Division 12 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Metal Studs/Drywall/Insulation as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Provide all fabrication, delivery, materials and equipment for unloading/stocking as required for the Work.
3. CM to provide dumpster for general CD, all Metal will be in separate dumpster also provided by CM. All material delivered and paid for on the project is the property of NHCSS.
4. This package will furnish and install all interior and exterior cold-formed metal framing, blocking, bracing, soffits, hard ceilings, partitions infill and parapets. Including all, framing accessories, anchors, clips, fasteners, miscellaneous materials, equipment, hoisting, fees, layout, scaffolding, ladders, staging, tools, rigging, safety, and any other facilities necessary to complete the work and provide a complete system.
5. All interior gypsum wall board – including hanging and finishing – ready to paint.
6. Allow for multiple deliveries and phasing as required to facilitate construction progress for this scope of work.
7. Exterior gypsum and framing as required.
8. Building and sound insulation in metal stud walls and ceilings and at top of metal stud walls per Contract Documents.
9. Ceiling expansion joint systems as required per Specifications.
10. All trim and accessories as required per Specifications.
11. Thermal and Batt insulation in all metal framing, regardless of location.
12. Rigid mineral wool insulation where it occurs directly behind the metal panel system and proud of the weather barrier to be furnished and installed by BP742 Metal Wall Panels.
13. Light-gauge metal framing of walls/ceilings/soffits/banding/bulkheads etc.
14. All light gauge metal bracing at the top of CMU walls.
15. Cold formed steel framing (Structural).
16. Where new work will be taking place in the classroom bump-up and the main entrance, BP220 will demo the existing beams/structure/decking and provide scaffold and building wrap to elevation 8' higher than roof elevation. All beams and girders will be set from the interior of the building under dry conditions by BP500. This package to coordinate the installation within this scaffold/building wrap arrangement to maintain dry-in of the building.
17. Any damage to the scaffold or building wrap during this installation will be the responsibility of this contractor

18. BP500 Steel to furnish and install all metal roof decking, however metal roof decking installed onto structural stud joists (classroom bump-up ie Area B S2.02B) shall be installed by this package BP925 Metal Studs to facilitate dry-in. All other areas BP500 to install decking.
19. Include all required engineering and/or engineered partition/stud layout. Shop drawings to be stamped and signed by registered professional engineer in the State of North Carolina for Cold Formed Metal Stud framing.
20. Install and maintain fall protection for this scope of work per OSHA standards and removal of when directed by Construction Manager.
21. Fire stopping/sealing rated GWB walls to structure as required per Contract Documents.
22. Shaft wall systems/chases as may be required per Plans and Specifications.
23. All column wraps and enclosures.
24. All furring as indicated – including hat channel at soffits.
25. This bid package to furnish and install all new cement fiberboard soffits as indicated.
26. Top of wall sealing within the exterior soffits will be completed from the exterior. All equipment needed to complete this scope will be included. Coordinate this work with BP 790 for sprayfoam installation.
27. All framing for top of wall work as called out on A3.0 and A3.1
28. Expansion/control joints as required per drawings and/or manufacturer's specifications as pertain to this scope of work for walls and hard ceilings.
29. This package to provide all blocking at windows and openings that occur within metal stud walls. Subcontractor acknowledges that the Contract Drawings are diagrammatic when referring to wood blocking and Subcontractor will provide the necessary amount of blocking regardless of what is shown in the Drawings. Including but not limited to toilet accessories, toilet partitions, aluminum door jambs, marker boards, tack boards, fire extinguisher cabinets, water fountains, handrails, casework, etc. (all blocking to be fire rated)
30. Frame out for all items in metal stud walls (i.e.: fire ext. cabinets, access doors/panels, toilet accessories, etc.)
31. Hollow metal frames within this work are to be furnished by BP800 to the jobsite and installed by this Subcontractor. Unloading, inventory, and staging by this scope. Provide list of missing or damaged door frames to the CM.
32. This contractor will review the door frames during and after installation and confirm door frames openings have been installed correctly and will accept future doors. This subcontractor to issue a list for deficient openings. Verify openings are sized to receive the work and is in accordance with manufacturer's acceptable tolerances required by their respective specification section(s) and any additional work required to accommodate these tolerances will be done at no cost to the Construction Manager and/or Owner by this subcontractor .
33. Any necessary web stiffeners, bracing, strapping, and engineered shop drawings.
34. Insulate and seal all openings at exterior wall to structure that pertain to this scope of work.
35. All building wrap (dens glass) on exterior metal framed walls.
36. Framing & GWB soffits at varying heights in locations required per Plans.
37. Provide all firestop shown on or required by the Contract Documents, or required by code, at locations where it is trapped by or abuts the Work. This Subcontractor will furnish and install all fire-safing insulation, fire rated caulking, baker rod, and compressive filler where indicated and required by the contract documents. This Subcontractor will provide an enclosure of these systems, especially at the underside of the metal decking to maintain the rating and/or integrity of the system. (Note: Fire stopping at the MEP sleeves will be provided by the MEP trades, and BP 400 is responsible for their scope.)
38. Coordinate framing block-outs for MEP trades.
39. Include rough opening and framing for all access panels. Locations of panels to be provided by other trades to this contractor, and installation of panels are by others.
40. Furnish and install plywood backboard in electrical/telephone closets as required per Plans and Specifications. Coordinate with CM and BP2600 prior to ordering material and installation.
41. Include all Mockups/Samples as may be required per Plans and Specifications, to be completed within 30 days from NTP (notice to proceed) or LOI (letter of intent).
42. All interior and exterior mineral wool as it pertains to this scope of work
43. Provide all point-up of GWB assemblies prior to final paint and during punchlist timeframe
44. Include all floor scraping following finishing and daily dust control and cleanup of work.
45. Provide all temp partitions including; doors, and signage as needed by the CM to facilitate work in the corridors. One sided plywood with sealed seams on metal studs, Pre fabricated lockable door from Lowe's, partitions will be floor to structure.
    a. (2) at the expanded learning space in the courtyard

b. (1) full length of media center (north to south) to facilitate new masonry wall construction
c. (1) to barricade off the main entry vestibule to facilitate new work

46. There will be work dealing with the installation of the mobile units (this will be a separate permit) will be included in this scope. Reference AM1.0, C2.0 –C6.0, and E1.41 & E1.42 for requirements
    a. Patching of existing fire rated corridors back to their original condition (fire caulk included)
    b. Patching of GWB at trailer seams
    c. Finishing/Sanding included (all vacuum sanding)

Priority Task Items:
1. As directed by Construction Manager.
2. Mockup/Samples

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1. 120hrs for patching of existing corridors above ceiling to maintain fire rating. Allowance tracked by CM

Unit Prices:
1. Rate per laborer hour regular time
2. Rate per laborer hour overtime
3. Rate per framer/hanger hour regular time
4. Rate per framer/hanger hour overtime
5. Rate per finisher hour regular time
6. Rate per finisher hour overtime
7. Rate per supervisor hour regular time
8. Rate per supervisor hour overtime

Alternates:
G-2 Athletic Support Space Renovations (This one involves P, M & E work)

END OF SECTION

Bid Package: BP 930 – CERAMIC TILE

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 7 (all sections as they apply to this scope)**
- **Division 9 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Ceramic Tile as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Provide all fabrication, delivery, materials and equipment for unloading/stocking as required for the Work.
3. This subcontract will furnish and install all floor tile, wall tile, unglazed paver tile, glazed wall tile, quarry tile, and all associated accessories as indicated in plans and specifications including but not limited to:
   a. Trim units / Shulter strips as indicated on the drawings and specs
   b. Grout and sealer as required
   c. All crack isolation membrane and associated accessories as required per plans and specifications and recommended by manufacturer, including but not limited to all control joints on drawings.
   d. All waterproof membrane.
   e. Setting Materials
   f. Mortar beds
   g. All grout beds and materials associated with grout beds
   h. Furnish and install all tile backing panels.
   i. Edge Strips
   j. Testing per the specifications
   k. All joint sealants as required for this work including all caulking/preparation/etc. Includes caulking at top of all base, top run of any tile, at tile edges, all bullnose tile, and any other tile to other materials. Furnish and install all sealant filled expansion joints as indicated and related to this scope of work.
   l. All stone (marble) thresholds as required for installation of this work. Assume stone thresholds at all floor tile transitions to other material.
4. Any floor patching as may be required for this work, including corner repairs and the treatment of cracks/control joints, leveling, etc. If floor patching is considered excessive, inform Construction Manager prior to installation of tile.
5. Include ALL demo of existing floor tile and floor prep and setting materials (floor fill) required for installation of this work.
6. All testing of sub-floor as needed to insure compliance with Specifications and manufacturer recommendations. This is to be done in **sufficient time** prior to installation to afford the Construction Manager time to correct any deficiencies with moisture levels in the concrete.
7. Where applicable verify floor slopes to drain prior to tile installation.
8. All tile layout to be completed to avoid less than ¼ tile width in any direction. Coordinate tile layout plan with the Construction Manager.
9. Cleaning of all completed work prior to installation of protective covering.

10. Protect finished tile work with Ramboard or equivalent over entire floor as installation completes. Joints are to be taped 100% and protection is to be maintained for the duration of the work. All protection shall be removed prior to cleaning by this subcontractor as directed by the Construction Manager.
11. Owner's Maintenance training and provide Owner attic stock per specifications.
12. Waterproof membranes, etc. as required per plans and specifications. All testing as required per plans and specifications.
13. All stone window stools as indicated in the drawings.
14. Regrouting of kitchen floor as called out on the contract documents. Extreme care needs to be taken to ensure the existing tile isn't damaged in the process of regrouting. Review prior to starting with Owner and CM to identify any existing damaged tile; damage cause by regrouting will be replaced by this package. Assume 5% of total SQFT of matched porcelain tile to be removed and replaced.
15. Included in this scope of work is **ALL TERRAZZO** work associated with the contract documents.
    a. New terrazzo installation at flexible learning and reception area
    b. Patching of existing, refer to Structural dwgs for extents of new footing work which will require cutting of existing terrazzo floor.
    c. Including existing terrazzo matrix identification for product match
    d. All transitions
    e. Grinding and polishing
    f. Final sealing and cleaning
    g. 480V generator for power of terrazzo finishing equipment
16. Include all Mockups/Samples as may be required per Plans and Specifications, to be completed within 90 to 120 days from NTP (notice to proceed) or LOI (letter of intent).

Priority Task Items:

1. As directed by Construction Manager.

Work Scope Sequence:

1. As directed by Construction Manager.

Allowances:

1. 100 linear feet of terrazzo base to repair misc locations throughout the school as noted on the documents
2. 50 bags of floor patch as need to make repairs of existing grout beds in bathroom renovation areas

Unit Prices:

1. Supply and install per bag of floor patch
2. Supply/fabricate/install per linear foot of additional terrazzo base

Alternates:

G-2 Athletic Support Space Renovations (This one involves P, M & E work)

END OF SECTION

Bid Package: BP 960 – RESILIENT, CARPET & BASE

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 7 (all sections as they apply to this scope)**
- **Division 9 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Resilient Flooring, Carpet and Base as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Provide all fabrication, delivery, materials and equipment for unloading/stocking as required for the Work.
3. Daily cleanup will be required. Dumpster provided by CM near office trailer
4. 100% of the square footage of the existing school flooring will be replaced over the course of the school year (minus existing terrazzo). The work will be completed in multiple phases throughout the year, CM will coordinate with BP960.
5. Multiple mobilizations as needed to complete the scope of work.
6. Subcontractor acknowledges that sweeping compound will be provided by this scope and used during floor sanding to minimize airborn dust and to protect building mechanical systems.
7. Floor patching/buffing/leveling as may be required for this work, including the treatment of cracks/control joints/depressions/high spots/low spots, etc. NOTE there are areas where prep will be needed where existing mortar bed is removed and VCT is installed new. These areas of prep will be carried in this scope.
8. All resilient wall base throughout the entire school where terrazzo base does not occur.
9. Include replacement of vented wall base in the gym where wood flooring occurs per A6.0
10. All substrate preparation including any necessary sweeping/vacuuming/etc. in accordance with Specifications.
11. All vinyl composition tile flooring;
12. Refer to Partial Phasing Plan in Section 1 of the Bid Manual for areas that will receive temp/sacrificial VCT following 1st Summer abatement.
13. This bid package to also demo/remove temp/sacrificial VCT just ahead of permanent Flooring installation. All work coordinated with CM.
14. Contractor to provide a "quick ship" color wheel to CM upon award of contract to procure material in time for install of the sacrificial VCT the first summer following abatement.
15. All transition/edge strips/thresholds (at Gym Flooring transition).
16. All architectural joint systems and expansion joints as required per Plans and Specifications to complete this scope of work. Include coordination with BP390 for layout.
17. All carpet, adhesives and accessories as needed to complete this scope.
18. Layout all rooms to minimize small borders regardless of floor material
19. Demo and replacement of all rubber stair treads as called out on the plans.
20. Procurement and installation of vestibule entry walk off mat and frame is by this contract. Provide template for concrete placement via approved submittal (30) days post notice to proceed.
21. All moisture testing of sub-floor to insure compliance with Specifications and manufacturer recommendations.
22. Protection of all newly installed flooring will be included. Install, maintain and removal. Please NOTE we will be turning over areas quickly to the owner, but while the area is occupied by the CM it will be the responsibility of this contract.

23. Final cleaning of installed work to a broom clean and mopped finish prior to installation of protective floor covering.
24. All related punchlist work.
25. Include Owner's Maintenance Stock per Specifications.
26. Include Owner's Training per Specifications.
27. Include all Mockups/Samples as may be required per Plans and Specifications, to be completed within 10 days from NTP (notice to proceed) or LOI (letter of intent).
28. Include 2% of total floor area to remove and replace damaged VCT and 1% of carpet as directed by the CM.
29. There will be work dealing with the installation of the mobile units (this will be a separate permit) will be included in this scope. Reference AM1.0, C2.0 –C6.0, and E1.41 & E1.42 for requirements
    a. Patching back of all base
    b. Re-installation of all carpet squares (these will travel with trailer from current location)
    c. Re-installation of all VCT at trailer seams
    d. Thorough punch of existing units, assume (1) day. all materials included.

Priority Task Items:
1. As directed by Construction Manager.

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1. Supply and install 50 bags of floor patch as directed by the CM

Unit Prices:
1. Supply and install per bag of additional floor patch

Alternates:
G-2 Athletic Support Space Renovations (This one involves P, M & E work)

END OF SECTION

Bid Package: BP 980 – ACOUSTICAL CEILINGS

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 5 (all sections as they apply to this scope)**
- **Division 6 (all sections as they apply to this scope)**
- **Division 7 (all sections as they apply to this scope)**
- **Division 9 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Acoustical Ceilings as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Provide all fabrication, delivery, materials and equipment for unloading/stocking as required for the Work.
3. Daily cleanup will be required as part of this scope. Dumpster will be provided by CM near the office trailer.
4. All necessary shop drawings/submittals, samples, testing, O&M Manuals, warranties and extra materials per specifications.
5. Furnish and install all acoustical tile and grid systems and all associated accessories including but not specifically limited to fasteners, anchors, etc. for a complete installation as indicated in plans and specifications.
6. Furnish and install all acoustical wall panels (Gym, classroom structural bump-up, media center and cafeteria), suspended acoustic baffles, fixed sound absorptive panels, acoustical room components, and all associated accessories including but not specifically limited to fasteners, anchors, etc. for a complete installation as indicated in plans and specifications.
7. Include all protection of adjacent surfaces, equipment and existing GYM floor when working on the gym structure. Coordinate with CM on load requirements for equipment for GYM floor.
8. Contractor is responsible for all work required for the proper mounting of the acoustical wall panels (blocking, furring, trim pieces, field modification of panels, etc.). Include necessary cleaning and protection of panels per specifications. Acoustical sealant as indicated for panels. Contractor shall coordinate with any/all work of others in which anchor into these panels. Contractor to properly create a finished product where others' work (electrical boxes, fire alarm boxes, speakers, etc.) mount directly with the acoustical panels.
9. Included in this scope of work will be removal of existing choral room panels and re-install following painting.
10. All seismic fastening as described in the contract documents and specifications.
11. Hold down clips as indicated and if required per Specifications.
12. Subcontractor is to review reflected ceiling drawings and coordinate installation of grid as to minimize small border cuts, equal border cuts is mandatory.
13. Contractor to properly create a finished product where others' work (electrical boxes, fire alarm boxes, speakers, etc.) mount directly with the acoustical panels and ceiling tiles.
14. All architectural joint systems and expansion joints as required per Plans and Specifications to complete this scope of work.
15. Additional wire supports for light fixtures, grills, dampers, etc. as required to meet codes, regardless if attachment is to grid, fixture, grill, damper, etc. No wires are permitted to be tied to bridging.
16. Owner's Maintenance Stock per Specifications.
17. 100% of the existing ceiling grid in the school will be replaced throughout the school year as part of this scope of work. This work will be coordinated with the school system BP 1600 and CM.

   a. All coordination with MEP trades as required for this scope of work and in accordance with the Specifications, as all lights and ceiling mounted devices will be replaced during this work.
   b. Any additional ceiling supports as needed to complete this scope
   c. Multiple mobilizations
   d. Coordinate with BP1600 (electrical, FA, and security) on ceiling replacements
   e. All accessories included
18. Wire supports are to be cut off to prevent eye injuries above ceiling.
19. No exposed fasteners including pop rivets on moldings and trim.
20. Caulking (color to match wall molding) along wall molding as required or where necessary at gaps or voids ¼" or greater at all corridor areas, classrooms, etc. and masonry.
21. The use of stilts will be allowed as long as this contractor is working in a safe and clean environment, cleaning of work area prior (if needed) by this subcontractor to maintain schedule, CMR can remove this privilege if needed.
22. Per CM direction, include the removal, disposal of, and replacement with new materials equal to 3% of previously installed ceiling grid, accessories, and tile at no additional cost to this subcontract.
23. Include all Mockups/Samples as may be required per Plans and Specifications, to be completed within 90 to 120 days from NTP (notice to proceed) or LOI (letter of intent).
24. There will be work dealing with the installation of the mobile units (this will be a separate permit) will be included in this scope. Reference AM1.0, C2.0 –C6.0, and E1.41 & E1.42 for requirements
   a. Assume (2) days for a crew to punch and re-install grid and tiles in the trailers following completion. This occurs at the trailer seams. All material included.

Priority Task Items:
1. As directed by Construction Manager.

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1. 40 manhours as directed by the CM for damaged ceiling tile/grid replacement.

Unit Prices:
1. Rate per laborer hour regular time
2. Rate per laborer hour overtime
3. Rate per supervisor hour regular time
4. Rate per supervisor hour overtime

Alternates:
G-2 Athletic Support Space Renovations (This one involves P, M & E work)

END OF SECTION

Bid Package: BP 990 – PAINTING

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 7 (all sections as they apply to this scope)**
- **Division 9 (all sections as they apply to this scope)**
- **Division 21 (all sections as they apply to this scope)**
- **Division 22 (all sections as they apply to this scope)**
- **Division 23 (all sections as they apply to this scope)**
- **Division 26 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Painting as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Provide all fabrication, delivery, materials and equipment for unloading/stocking as required for the Work.
3. Daily cleanup will be required, CM to provide dumpster near the office trailer.
4. NOTE: 100% of the interior of the school will be painted under this contract. Assume multiple mobilizations as needed to complete this scope of work.
5. Include all protection of adjacent surfaces, equipment and existing GYM floor when re-painting the gym structure. Coordinate with CM on load requirements for equipment for GYM floor.
6. This scope of work includes the painting and preparation of all required areas and items except pre-finished items. Reference schedules in plans and specifications as related to this scope of work including, but not specifically limited to the following items as required per plans and specifications:
    a. All prep of hard surfaces to receive paint
        i. NOTE specific prep will be required on exterior walls in the 6th grade wing. Reference notes on contract drawings and specs for specifics.
    b. Any special coatings as may be required per specifications.
    c. Stenciling of all fire/smoke rating notices above ceilings on walls.
    d. All gypsum board assemblies
    e. All ceilings scheduled to receive paint
    f. All masonry scheduled to receive paint
    g. All concrete scheduled to receive paint and/or sealer.
    h. All concrete floor sealer/paint/epoxy in rooms as specified, including buffing, scraping, etching, scarifying cleaning of all foreign debris, mopping, etc. prior to installing floor sealers as per manufacturer's recommendations. Sealing of floors will be done during the final cleaning stage of the project and applied by rolling in compliance with manufacture recommendations.
    i. All painting of all HM doors and frames (including any metal frames for wood doors)
    j. Painting/sealing/staining Wood and Wood trim
    k. This contractor to paint all exposed mechanical/electrical/plumbing/fire protection items
    l. All exterior steel including, Hand railings, Bollards, Lintels, Gates, etc.
    m. Access doors
    n. Miscellaneous steel

o. All interior exposed steel and deck UNO to include all cleaning, prep, priming, paint, clear coat, etc. as required.
p. All painting or installation of interior and exterior high performance coatings as indicated or specified.
q. All epoxy coating in its entirety (including priming as may be required). This is inclusive of the proper installation of epoxy coatings in compliance with all project documents and manufacturer's recommendations.
r. All wall prep to facilitate the scheduled finishes in renovated areas. (BP400 to provide Masonry Repairs as required)
s. Countertop supports

7. All surface preparation and application operations, including but not specifically limited to the following
   a. Masking
   b. Block Fill
   c. Filling of voids
   d. Caulking
   e. Cleaning
   f. Protection
   g. NOTE: Contractor to ensure protection of all items not to receive paint while performing work.
8. Work to include all painting related caulk, including, but not specifically limited to the following items as required per plans and specifications:
   a. Caulking of all interior hollow metal door frames
   b. Gypsum board to masonry/concrete
   c. Gypsum board to gypsum board at interior corners
   d. Tile to other surfaces
   e. Hollow metal door frames to VCT
   f. Access door frames
   g. NOTE: Paint related caulking is determined to be any caulking which does not require a backer rod to caulk (i.e.: expansion/control joints are NOT the responsibility of the painting contractor).
9. All adhesion testing as required to ensure proper bonding of materials. Reference plans and specs. All proper primers to achieve proper adhesion included.
10. Include all prep of existing courtyard CMU surfaces to receive new finishes as noted on the Architectural drawings.
11. Painting contractor to inspect all areas to receive paint to ensure compliance with Specifications and shall accept these items/areas prior to painting.
12. Painting of each individual area of work on the project shall be completed in phases: 1st phase: prime coat; 2nd phase: first coat paint; 3rd phase: complete touch-up of installed work (including repair of any incidental damages and point-up required due to construction operations) & final paint. CM superintendent shall sign off and approve all painting prior to final coat application.
13. All punchlist work included
14. Owner's Maintenance Stock per Specifications.
15. Submit painting schedule prior to starting work.
16. Include all Mockups/Samples as may be required per Plans and Specifications, to be completed within 90 to 120 days from NTP (notice to proceed) or LOI (letter of intent).
17. There will be work dealing with the installation of the mobile units (this will be a separate permit) will be included in this scope. Reference AM1.0, C2.0 –C6.0, and E1.41 & E1.42 for requirements
    a. Paint all GWB patch to match existing colors at trailer seams. We are NOT painting the entire trailer units only at the trailer seams.

Priority Task Items:
1. As directed by Construction Manager.

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1. Not applicable.

Unit Prices:
1. Rate per laborer hour regular time
2. Rate per laborer hour overtime
3. Rate per supervisor hour regular time
4. Rate per supervisor hour overtime

Alternates:
G-2 Athletic Support Space Renovations (This one involves P, M & E work)

M-2 Mechanical Equipment Replacement in the Gymnasium

END OF SECTION

Bid Package: BP 1005 – TOILET PARTITIONS, ACCESSORIES, DIVISION 10

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 6 (all sections as they apply to this scope)**
- **Division 10 (all sections as they apply to this scope)**
- **Division 11 (all sections as they apply to this scope)**
- **Division 12 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Toilet Partitions, Accessories and Division 10 as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. All equipment needed for this scope to be included
3. Daily cleanup will be required. CM will provide dumpster near the office trailer
4. All furnish/delivery/unloading/stocking/installation/adjustment including, but not specifically limited to the following items as required per plans and specifications (Please Note that drawings may indicate items below with other symbols. Refer to specifications, abbreviation page on A4.0, equipment schedule, etc. to ensure all items are picked up correctly):
    a. Equipment Legend items "FEC" and "FEW" – Fire extinguishers and cabinets. Include extinguishers that may not be installed in cabinets.
    b. All specification related items shown on plans.
    c. Furnish and install all fire protection specialties, including all accessories and extinguishers for a complete install.
    d. Commercial Toilet Accessories
    e. Commercial Shower and Bath Accessories
    f. Utility Room Accessories
    g. Toilet Partitions
    h. Visual Display Boards
    i. Installation of items indicated as furnished by Owner
    j. All accessories for this scope of work, including Misc. Metal Hooks, latches, keepers, hardware, bumpers, pulls, etc. for a complete and functional installation as specified and required.
5. Included in this contract will be all marker boards and tack boards as called out on the contract documents including all mounting hardware as needed to complete the installation.
6. Roller Shades as indicated on the plans to be furnished and installed by this bid package.
7. Locker Benches as part of an Alternate.
8. EXCLUDED ITEMS: Signage, Wood Storage Shelving, Protective Coverings, Entrance Floor Mats and Frames
9. Any required sleeves/block outs for this scope of work shall be furnished under this scope of work.
10. All required adjusting per Specifications.
11. Contractor to provide accurate rough in dimensions for all toilet partitions, accessories, fire extinguisher cabinets, etc. to CM prior to construction of walls for blocking coordination with BP925.
12. Include all field measuring prior to release of material

13. All spare parts, keys (amount per specifications), and O/M Manuals must be turned over and signed for by Barnhill representative. Leaving with equipment/material is not acceptable.
14. Certification of fire extinguishers and proper labeling by this Contractor to be performed by an independent testing agency acceptable to AHJs. Timing of certification to be coordinated with Construction Manager.
15. Include installation of all Owner provided equipment/accessories per Contract Documents.
16. All warranties as required per plans and specifications.
17. Owner's Maintenance Stock.
18. Coordination of this scope of work as it relates to work installed or provided by others.
19. Multiple mobilizations as necessary to facilitate construction progress and as directed by Construction Manager.
20. Removal of all temporary labels and protective coatings/coverings after completion of installation of work.
21. Provide all necessary protection of completed work installed by others if required to complete this scope of work.
22. All necessary shop drawings/submittals, samples, testing, O&M Manuals, warranties and extra materials per Contract Documents.
23. There will be work dealing with the installation of the mobile units (this will be a separate permit) will be included in this scope. Reference AM1.0, C2.0 –C6.0, and E1.41 & E1.42 for requirements
    a. This contract will make site visit to inspect the units prior to the completing the work, and inform CM if there are any missing parts and pieces. In the event parts need to be ordered, approval by CM and NHCSS will be needed prior to ordering.
    b. Assume (1) day for installer to punch all existing toilet partitions to ensure they are in proper working condition. All misc materials included.

Priority Task Items:
1. As directed by Construction Manager.

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1. Not applicable.

Unit Prices:
1. Not applicable

Alternates:
G-2 Athletic Support Space Renovations (This one involves P, M & E work)

END OF SECTION

Bid Package: BP 1010 – IDENTIFYING DEVICES

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 10 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Identifying Devices-Signage as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Inclusion Items as applicable to complete Work.
2. Daily cleanup will be required. CM to provide dumpster near office trailer.
3. Furnish & install all building signage (interior and building mounted exterior) as indicated in plans and specifications.
4. Furnish and install of project signage includes all accessories as specified (including any brackets, posts, backplates, caulking, fasteners, etc. as required).
5. Note 100% of interior building signage is replaced as part of this scope.
6. Contractor to include in base bid all life safety and ADA signage specified but not shown on signage schedule (1) sign at each fire extinguisher location, (1) sign at each fire alarm pull station, (1) sign indicating occupant load of each assembly area or space, and all signage as required by building code
7. Furnish & install all required exterior metal letters per plans and specifications, copy found on entry canopy.
8. EXCLUSION: Sitework traffic signage by others.
9. Coordinate with CMR and NHSS on room # identification prior to manufacturing and immediately following final sample approval
10. Provide one sign for the following locations: (1) Main Electrical Room Sign, and (1) Fire Alarm Panel sign. (1) Fire Alarm Control Panel
11. Multiple mobilizations as necessary to facilitate construction progress and as directed by Construction Manager.

Priority Task Items:
1. As directed by Construction Manager.

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:

Unit Prices:
1. Not applicable.

Alternates:
G-2 Athletic Support Space Renovations (This one involves P, M & E work)

END OF SECTION

Bid Package: BP1240 – TELESCOPING BLEACHERS

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 0 Bidding and Requirements**
- **Division 01 General Requirements**
- **Section 11 6623 Gymnasium Equipment**
- **Section 12 6613 Telescopic Bleachers**

Furnish all labor, material, equipment, and supervision required to complete all Telescoping Bleachers as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Provide all fabrication, delivery, materials and equipment for unloading/stocking as required for the Work.
3. Daily cleanup will be required
4. This bid package will be responsible for the demo of existing bleachers and placed in dumpster provided by CM
5. This bid package will be responsible to provide and install new motorized bleachers as shown on the contract documents
6. Installation of the bleachers will occur in (2) phases. One side must be complete and turned over to owner prior to the adjacent set being demoed and replaced.
7. Plan for (2) deliveries of bleachers, each side being a complete package.
8. Onsite storage for excess material will not be provided.
9. Installation of this scope of work will occur during the normal school year on an active campus.
10. All wall pads to have logos as shown on the contract documents will be included in this contract.
11. Removal of all temporary labels and protective coatings/coverings after completion of installation of work.
12. This Subcontractor is responsible for all wiring associated with equipment provided by this package. Electrician to provide line side power at motor, provide raceway, and back box. BP1240 to pull control wire and final terminations at switch. All other materials and labor to make bleachers functional by BP1240.
13. Protection of adjacent finishes during staging and installation, subcontractor acknowledges that potential damage to finishes can occur, and any cost to repair such damages will be the sole responsibility of this scope.
14. Include proper testing and owner demonstration.
15. All final cleaning to be included.
16. All spare parts, keys, and O/M Manuals must be turned over and signed for by Barnhill representative. Leaving with equipment is not acceptable.

Priority Task Items:

As directed by the Construction Manager

Allowances:

1. Not Applicable

Unit Prices:

1. Not Applicable

Alternates:

1. Not Applicable

END OF SECTION

Bid Package: BP 1540 – PLUMBING

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 5 (all sections as they apply to this scope)**
- **Division 6 (all sections as they apply to this scope)**
- **Division 7 (all sections as they apply to this scope)**
- **Division 10 (all sections as they apply to this scope)**
- **Division 11 (all sections as they apply to this scope)**
- **Division 12 (all sections as they apply to this scope)**
- **Division 22 (all sections as they apply to this scope)**
- **Division 23 (all sections as they apply to this scope)**
- **Division 31 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Plumbing as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Provide all fabrication, delivery, materials and equipment for unloading/stocking as required for the Work.
3. All required shop drawings, submittals, closeout documents and warranties per Plans and Specifications.
4. Due to the renovation nature of this project true Building Information Modeling (BIM) 3D modeling won't be utilized, however in isolated areas where overhead coordination is needed due to the new work, BCC will ask that this bid package participate in this field coordination effort.
5. Competent personnel on hand during Fire Marshall and all other inspections.
6. Coordination of work with other trades as necessary to provide for a complete and functional installation of the work.
7. Provide asbuilts for the complete scope of this work per plans and specs. NOTE: All existing overhead equipment, pull boxes, and main feeders to be ID'd on the asbuilts for record. This should be documented during the demo and ceiling grid replacement scope when 100% of the existing ceiling will be exposed.
8. Assume multiple mobilizations to complete this scope of work.
9. Installation, maintenance and removal of temporary water supply including hook up to Construction Manager office trailer and furnish/install of commercial grade hose bibs for water supply, two (2) mounted on 4”x4”x8’ treated post set in concrete. Include all costs for removal below grade when directed by the CM.
10. Provide and fabricate waste riser manifold for CM office trailer to holding tank.
11. Final connection of all plumbing in buildings from a point 5’ outside of the building line.
12. Firestopping all penetrations through rated assemblies.
13. Layout and installation of ALL penetrations including core drilling, saw cutting and sleeves for this scope of work.
14. Layout and installation of ALL penetrations for slabs on grade and slabs on deck is included in this scope of work as required.
15. All sawcutting of existing slab on grade to accommodate revised plumbing installation will be included in this scope.
16. Misc block removal at bathroom renovations for in wall rough in modification will be by this scope. BP 400 to replace.
17. Provide and install all required access panels. Coordinate layout and size with the BP925

18. Remove/store/re-install all bathroom fixtures as called out on the plans and specs will be the responsibility of this contractor. This will be multi phased, and will be at the direction of the CM.
19. Excavation and backfill for all under slab piping to the specified compaction requirements.
20. All plumbing fixtures and equipment. Ensure compliance with all applicable ADA Codes and Regulations. Ensure no conflicts exist with any toilet accessories. Including hot water heaters, circulation pumps, mixing valves, etc.
21. Connection of items as it relates to other scopes of work as required per Plans and Specifications.
22. All underground, overhead, in wall plumbing including, waste, vent, water, storm, roof drains, valves, pumps, specialties, eyewashes, etc.
23. All plumbing insulation.
24. All New gas piping to accommodate the new roof units as needed per the plans and specs, all material and accessories included for a complete and functional system. All testing included. CM to coordinate with local Gas Company on setting of the meter.
25. Furnish, install all SS surrounds at all mop sinks if required by specifications
26. All plumbing identification including any necessary stenciling per Plans and Specifications. (NOTE all existing valves and new to receive new tags, including (2) valve charts and maps, include in asbuilts).
27. Seismic bracing as may be required to meet the seismic zone for this project.
28. Coordination of caulking as it pertains to this scope of work
29. Reconnecting of appliances in Locker Room space following renovation.
30. Coordination with NHC inspections office and Fire Marshall for all inspections and final approvals.
31. Coordination with other trades for work provided or installed by others as it relates to this scope of work.
32. Roof and Overflow drains are to be provided and installed by this scope of work. Include all coordination and tie-ins with BP740 and BP250. Include all roof drain piping to 5' outside of the building. Coordinate with BP250.
33. Coordinate all drains and cleanouts with flooring/concrete contractors to ensure proper installation and elevation(s). Plumbing contractor to be on site during all concrete slab pours.
34. Included in this scope will be any rework associated with existing floor drains in the new tile floors being installed in the bathrooms, coordinate with BP930
35. Coordinate work with millwork contractors for openings needed for this scope, BP 620 will cut all openings
36. Underlavatory guards as required per specifications.
37. All Plumbing work dealing with the installation of the mobile units (this will be a separate permit) will be included in this scope. Reference AM1.0, C2.0 –C6.0, and E1.41 & E1.42 for requirements
    a. Final connection of domestic water. Main installed by BP250
    b. Ensure all plumbing fixtures that are installed in the mobile units are in functioning condition when turned over
    c. All misc caulking as it pertains to this scope of work
    d. Provide/fabricate and install connection waste riser manifold and make final connection to grinder pump.
    e. Grinder pump and force main piping installed by BP 250
    f. All excavation and backfill included
    g. Install an exterior spigot (keyed operation) on one of the units (insulate and heat trace included) for watering of grass seed.
38. Make sure protection is provided to keep concrete, trash, debris, etc. out of lines. Capping and plugging is required. Verify lines are cleaned and thoroughly flushed at completion.
39. No unscheduled/unapproved cutting of structural members is permitted.
40. Include all required isolation and/or expansion supports for piping.
41. This contract shall furnish all motor starters, disconnect switches and combo starters for Plumbing Equipment and turn over to Electrical Contractor/BP1600 for installation.
42. Backfill and excavation of all underground piping related to plumbing scope of work. It is the responsibility of this subcontractor to remove spoils from piping installation, backfill to the specified compaction requirements at underslab locations, and the removal of spoils to the outside of building walls. Excess spoils are to be placed in designated area on site as directed by the Construction Manager for removal of spoils by BP250.
43. Include pre-start up for equipment with factory representative prior to commissioning.
44. Install furnish & installation of all concrete collars per Contract Documents.

Priority Task Items:

1. As directed by Construction Manager.

Work Scope Sequence:

1. As directed by Construction Manager.

Allowances:

1. 120 Hours for Plumber to point up and punch existing overhead plumbing installation when ceiling grid replacement is going on, all material included. This will include but not limited to: Reinstalling missing hangers, saddles, supports, Any additional insulation repair work to existing piping as needed to make existing overhead installation acceptable. All time to be time verified and tracked by CM. Coordinate this work with the ceiling grid replacement scope of this project

Unit Prices:

1. Rate per laborer hour regular time
2. Rate per laborer hour overtime
3. Rate per supervisor hour regular time
4. Rate per supervisor hour overtime
5. Rate per mechanic hour regular time
6. Rate per mechanic hour overtime
7. Rate for undercut per cubic yard and backfill with ABC stone.
8. Rate for trench rock removal per cubic yard and backfill with ABC Stone.

Alternates:

G-2 Athletic Support Space Renovations (This one involves P, M & E work)

M-2 Mechanical Equipment Replacement in the Gymnasium

END OF SECTION

Bid Package: BP 1550 – TURNKEY HVAC SYSTEMS

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 5 (all sections as they apply to this scope)**
- **Division 6 (all sections as they apply to this scope)**
- **Division 7 (all sections as they apply to this scope)**
- **Division 8 (all sections as they apply to this scope)**
- **Division 9 (all sections as they apply to this scope)**
- **Division 23 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete **ALL** HVAC Systems, **ALL** Controls work and **ALL** Test and Balance as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

ALL HVAC SYSTEMS RELATED TO THE CONTRACT DOCUMENTS WILL BE INCLUDED IN THIS SCOPE:

1. BP001 – General Inclusion Items as applicable to complete Work.
2. Provide all fabrication, delivery, materials and equipment for unloading/stocking as required for the Work.
3. All required shop drawings, submittals, closeout documents and warranties per plans and specifications.
4. Due to the renovation nature of this project true Building Information Modeling (BIM) 3D modeling won't be utilized, however in isolated areas where overhead coordination is needed due to the new work, BCC will ask that this bid package participate in this field coordination effort.
5. All necessary mobilizations as required to facilitate construction progress.
6. Daily cleanup will be required per contract. CM to provide dumpster located near the office trailer.
7. Competent personnel on hand during Fire Marshall and all other inspections.
8. Coordination of work with other trades as necessary to provide for a complete and functional installation of the work.
9. Coordination with NHC inspections and CM for all inspections and final approvals.
10. All schedules, as-builts, identification, etc. as required per Plans and Specifications. NOTE: All existing overhead equipment, pull boxes, and main feeders to be ID'd on the asbuilts for record. This should be documented during the demo and ceiling grid replacement scope when 100% of the existing ceiling will be exposed.
11. This subcontractor is responsible for "making safe" all existing HVAC equipment to be demolished in the existing school work area. All vapors and liquids are to be disposed of properly in ordinance with state laws. All piping is to be drained empty and left for demo by BP 220.
12. All duct called for demo will be by this scope of work. Coordinate with CM on demo with work phasing.
13. Placing heating/cooling systems into service as early as possible to coordinate with construction schedule requirements.
14. While work zones are active all maintenance of filters will be the responsibility of this contract, including filter media over return grills for temporary protection.
15. Units are to be turned over with new filters at the time of occupancy, including an additional full set (for all units) at date of substantial completion of the project.

16. ALL materials and accessories as it pertains to the installation of new ductwork including but not limited to, duct, duct insulation, hangers, uni-strut, fasteners, adhesives, dampers, motorized dampers, fire dampers, diffusers, flex duct, filters etc.
17. All spiral ductwork.
18. Firestopping all penetrations through fire-rated assemblies.
19. Layout and installation of ALL penetrations including core drilling, saw cutting and sleeves for this scope of work.
20. Layout and installation of ALL penetrations for slabs on grade and slabs on deck is included in this scope of work as required.
21. All fire dampers and access doors in ductwork as required.
22. Provide and install all required access panels. Coordinate layout and size with the BP925
23. Installation of duct detectors in this work. Coordinate work with BP1600.
24. All required hanger wire and supports.
25. All HVAC equipment as noted in the plans, schedules and specifications.
26. All new roof curbs included; Coordinate locations/sizes of roof curbs with roofing contractor (mechanical roof curb to be furnished/installed by BP1550/coordinate with BP740 Roofing Contractor). Include all required layout. CM to direct sequencing of roof unit replacement.
27. Assume 6 Mobilizations of a crane to address the segmented installation of the replacement AHUs
28. Seismic bracing as may be required to meet the seismic zone for this project.
29. All identification per Specifications, including all stenciling, stencil painting, pipe markers, tagging, nameplates, track markers, etc. per Plans and Specifications. Color coding by BP990. Labeling by BP1550.
30. Install all louvers and vents that are provided by BP840. Include removal of all temporary labels and protective coatings/coverings after completion of installation of work. Include all layout as required in masonry or stud walls.
31. No unscheduled/unapproved cutting of structural members is permitted.
32. Include all necessary isolation and expansion control requirements to complete work.
33. Coordinate all ductwork layout with other trades to avoid congestion and interference.
34. The HVAC Contractor/BP1550 shall furnish all motor starters, disconnect switches and combo starters for HVAC Equipment and turn over to Electrical Contractor/BP1600 for installation.
35. All rooftop replacement PGAC equipment will require phased installation and will be immediately required to become operational due to the occupied nature of the school. As such the equipment warranty shall be for 2 years and start at date of operation rather than substantial completion of the project. All other warranties on equipment, devices, etc. shall extend from substantial completion and occupancy by the Owner as outlined in the specifications.
36. Any costs associated with maintaining the equipment, devices, etc. while units are in operation but still being utilized for the final stages of construction shall be the responsibility of this subcontractor and the subcontractor whose system is utilized.
37. Include startup and testing of all equipment with factory representative.
38. Regardless of specification requirement, provide phenolic labeling for all equipment.
39. Salvage and turn over rooftop unit to NHCSS maintenance dept per note #2 on MD1.1
40. All existing duct cleaning included per the plans and specs.
41. Subcontractor is responsible for final cleaning HVAC units upon completion

ALL CONTROLS WORK RELATED TO THE CONTRACT DOCUMENTS WILL BE INCLUDED IN THIS SCOPE:

1. ALL General notes above for HVAC systems will apply to 2nd tier sub performing this work.
2. Provide all necessary material and labor for a complete and operational Building Automation System (BAS). The system shall provide Direct Digital Control (DDC), Energy Management, and Building Automation for the air conditioning, heating & ventilating systems, lighting controls, and shall interface with other microprocessor based subsystems per the plans and specifications.
3. NOTE: multiple mobilizations as needed to complete this scope of work as this is a renovation project, and will be installed in phases and going into service immediately upon unit switchout. BE CLEAR: when mechanical units are switched out, all DDC and Controls will need to be in a state where the units can run. Coordinate with CM upon award of contract for phasing of unit replacement.
4. The system is to be consistent with BMS systems throughout NHCS facilities running the framework as specified by the contract documents

5. This contract will be responsible for all startup and commissioning with EOR and NHCSS maintenance.
6. All required shop drawings, submittals, closeout documents and warranties per plans and specifications.
7. As per NHCS Guidelines all components of the BAS system and systems associated with BAS must be operational on or before the date of Substantial Completion
8. This scope of work includes but is not limited to all raceways, boxes, wiring, devices, software, and graphic interface.
9. Include all necessary conduit, wiring, enclosures, and panels, for all DDC temperature control equipment and devices. Installation shall comply with applicable local and national codes.
10. BAS Contractor shall be responsible for all electrical work associated with the BAS control system and as defined In the Contract Documents. This BAS control wiring shall be furnished and installed in accordance with the Electrical requirements as specified in Division 26, the National Electric Code, and all applicable local codes.
11. BAS Contractor shall provide programming modifications necessary to fine tune sequences during commissioning and through the warranty period of system
12. This Contractor shall be responsible for coordination with the other associated trades, in order to install a fully functional Automatic Controls system.
13. This Contractor shall attend meetings with the Owner during construction and prior to 100% acceptance to coordinate and demonstrate the operation of the controls system. This shall include an any sessions at the completed facility for specific facility hardware orientation and basic graphical user interface training classes.
14. Controls Contractor shall provide onsite representation to participate in the commissioning process as put forward in the project specifications.
15. BAS Contractor to furnish the following to the Electrical Contractor for installation by the Electrical contractor:
    a. Variable Frequency Drives
    b. Location of all Variable Frequency Drives
16. Integration of lighting control as part of the BAS system if required. Line side wiring by BP 1600

ALL TEST AND BALANCE WILL BE INCLUDED IN THIS SCOPE OF WORK:

17. ALL General notes above for HVAC systems will apply to 2nd tier sub preforming this work.
18. All required shop drawings, submittals, closeout documents and warranties per plans and specifications.
19. Provide and install all necessary material and labor for a complete Testing, Adjusting and Balancing of ALL systems.
20. NOTE: multiple mobilizations as needed to complete this scope of work as this is a renovation project, and will be installed in phases and going into service immediately upon unit switchout.
21. Provide all necessary equipment and labor in order to test the indicated Heating, Ventilating and Air Conditioning systems in this project. Complete an accurate Testing and Balancing Report as per all plans and specifications for this project and submit Final TAB PRIOR to Substantial Completion.
22. The Contractor shall be responsible for coordination with the other associated trades, in order to accurately test and balance the system.
23. The Contractor shall provide a review of the design for the Heating, Ventilating and Air Conditioning systems to be installed in the school and provide a report of any questions for the Design Engineer with regard to system operations and design intent.
24. The Contractor shall provide an onsite inspection of the installed Heating, Ventilating and Air Conditioning systems in the school and provide a report of any system deficiencies or additional requirements that have to be addressed by other trades.
25. The Contractor shall be involved in the onsite inspections of the installed Heating, Ventilating and Air Conditioning systems in the school with the Engineer of Record. The EOR will review the submitted Test and Balance Report. Objectionable noise due to velocity, distribution, vibration, or inability to achieve required air is to be brought to the attention of the Construction Manager.
26. Completed Test and Balance report is required at time of substantial completion.

Priority Task Items:

1. As directed by Construction Manager.
2. All long lead submittal items to be expedited and submitted to Construction Manager.
3. Commissioning meetings as required per specifications including pre-installation conference.

Work Scope Sequence:

1. As directed by Construction Manager.

Allowances:

1. 120 Hours for mechanic to point up and punch existing mechanical ductwork ceiling when ceiling grid replacement is going on, all material included. This will include but not limited to: Reinstalling missing hangers, saddles, supports, tape, adhesive, Any additional insulation repair work to existing ductwork as needed to make existing overhead installation acceptable. All time to be time verified and tracked by CM. Coordinate this work with the ceiling grid replacement scope of this project

Unit Prices:

1. Rate per laborer hour regular time
2. Rate per laborer hour overtime
3. Rate per laborer hour double time
4. Rate per supervisor hour regular time
5. Rate per supervisor hour overtime
6. Rate per supervisor hour double time
7. Rate per mechanic hour regular time
8. Rate per mechanic hour overtime
9. Rate per mechanic hour double time

Alternates:

G-2 Athletic Support Space Renovations (This one involves P, M & E work)

M-1 Preferred DDC Controls
M-2 Mechanical Equipment Replacement in the Gymnasium

END OF SECTION

Bid Package: BP 1600 – Turn Key ELECTRICAL

Intent:
In general, this Bid Package is comprehensive to specific CSI Division Work **ALL** Electrical, **ALL** DATA and **ALL** Security/PA/FA and related Work as referenced, indicated on, or implied by **ALL** the "E" Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a courtesy and must be used in conjunction with **all** Project Documents. Scope of Work detail listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

Scope of Work Summary:

- **Division 00 Bidding and Requirements**
- **Division 1 General Requirements**
- **Division 3 (all sections as they apply to this scope)**
- **Division 5 (all sections as they apply to this scope)**
- **Division 6 (all sections as they apply to this scope)**
- **Division 7 (all sections as they apply to this scope)**
- **Division 8 (all sections as they apply to this scope)**
- **Division 11 (all sections as they apply to this scope)**
- **Division 12 (all sections as they apply to this scope)**
- **Division 22 (all sections as they apply to this scope)**
- **Division 23 (all sections as they apply to this scope)**
- **Division 26 (all sections as they apply to this scope)**
- **Division 27 (all sections as they apply to this scope)**
- **Division 28 (all sections as they apply to this scope)**
- **Division 31 (all sections as they apply to this scope)**
- **All Related Sections/Requirements as noted within each Division and/or Section**

Furnish all labor, material, equipment, and supervision required to complete all Turnkey Electrical as outlined for Work in accordance with all Contract Documents as listed in Attachment B of this Subcontract and all work to be performed. This Bid Package includes, but is not specifically limited to:

1. BP001 – General Scope Inclusion Items as applicable to complete Work.
2. Provide all fabrication, delivery, materials and equipment for unloading/stocking as required for the Work.
3. Daily Clean up will be required. CM to provide dumpster located near office trailer.
4. All concrete materials required for this scope of work.
5. All required shop drawings, submittals, closeout documents and warranties per Plans and Specifications.
6. Due to the renovation nature of this project true Building Information Modeling (BIM) 3D modeling won't be utilized, however in isolated areas where overhead coordination is needed due to the new work, BCC will ask that this bid package participate in this field coordination effort.
7. Provide temporary power and hookup, including all required panels, service (proper AMPs for items required by this scope of work), breakers, disconnects, etc. to CM Office Trailer and coordinate this work with CM and DEP on site. Temporary power to CM Office Trailer to be completed as early as possible and as directed by CM. Include maintenance and removal.
8. Provide all temporary power panels as needed in renovation main work areas. These may be able to be tied in to existing infrastructure but will be required to be protected VIA panel box. These can be mobile and relocated as needed. Possible to have multiple needed to facilitate work
9. Competent personnel on hand during Fire Marshall and all other inspections.
10. Coordination of work with other trades as necessary to provide for a complete and functional installation of the work.
11. Coordination with EOR and NHCSS maintenance agents for all inspections and final approvals.
12. Prior to the start of this work, this contractor to inspect existing FA panel and ensure it is clear of all troubles.
13. Furnish, installation, maintenance of temporary power and lighting to meet OSHA standards throughout project. Work also includes removal at completion of project and weekly review to insure safety compliance. This includes

the wiring of the Construction Manager Construction trailer. Include temporary outlets spaced a maximum of 100' on each level.

14. Placing electrical systems into service as early as possible.
15. The electrical contractor shall coordinate the Work so that the buildings existing permanent power/wiring distribution system (and Lighting system) shall stay in working order as to not disrupt the schools daily activities.
16. It will be the responsibility of this contractor to "make safe" all areas of demo for BP 220. All needed additional conduit and circuitry to keep adjacent rooms and areas energized during these times will be included.
17. BP1600 will flag or label all "HOT" or energized conduits remaining overhead during times of demo work. Coordinate with CM on delineation of "HOT" and "COLD" work.
18. Include remove/store and re-install of ceiling mounted cameras in areas of demo.
19. Provide adequate lighting in those areas where other interior painting and finishing is being performed.
20. Firestopping all penetrations through fire-rated assemblies included.
21. Include all building electrical work for the entire work areas for a complete turnkey electrical system.
22. ALL high voltage electrical work as called out in the contract documents including but not limited to:
    a. All conduit and raceways
    b. All wire (above and below ground)
    c. All equipment needed to install a complete system
    d. All testing and certifications
    e. All new switchgear
    f. All hangers, fasteners, boxes, mudrings, couplers, unistrut, all thread, cover plates and any and accessories needed for a complete system.
    g. Installation of all owner provided equipment
    h. All labeling and stenciling
    i. All demo of ALL existing systems following completion of new systems
23. All lighting fixtures as described on the contract documents
24. Provide and install all required access panels. Coordinate layout and size with the BP925
25. BP1600 will be required to submit a step-by-step plan for new switch gear replacement. This will be summited to CM and NHCSS for review. All aspects of this replacement will need to be planned around school activities or holidays. This contract will include all necessary generators/fuel to keep life safety and kitchen panels active during the shutdown. All fire watches included.
26. Layout and installation of ALL penetrations including core drilling, saw cutting and sleeves for this scope of work.
27. Layout and installation of ALL penetrations for slabs on grade is included in this scope of work as required.
28. All saw cutting for any slab penetrations as required. NO dry cutting will be allowed
29. Seismic bracing as may be required to meet the seismic zone for this project.
30. All required hanger wire and supports.
31. Include cutting of all ceiling mounted devices in tiles provided by BP980
32. **All fire alarm system, telecom, data, intercom, CCTV, MATV (if required), AiPhone installation, Area of Rescue (if required), security (including media center book detection), sound system, etc. will be included in this contract**;
    a. All conduit and raceways
    b. All wiring/cabling
    c. All ceiling mounted devices and control panels
    d. All equipment needed to install a complete system
    e. All testing and certifications
    f. All cable tray
    g. All gear and equipment needed in MDF rooms (plywood provided by BP925)
    h. All hangers, fasteners, boxes, cover plates and accessories
    i. Installation of all owner provided equipment
    j. All labeling and stenciling
    k. All demo of ALL existing systems following completion of new systems
33. BP1600 to provide all infrastructure for door electronic door hardware for a complete and functional system, coordinate with BP800. BP800 to provide all power supply's as it pertains to their scope of work for installation and line side wiring by BP1600. Include all raceways, boxes, flex, conduit, supports, hangers, etc needed for a complete installation. Reference plans/specs and line items noted in BP 800 on electronic hardware needs for infrastructure.
34. Exclude ALL Control LV wiring, this will be provided by BP 1550

35. Exclude building integration of hardware, this will be provided by BP800
36. Site Electrical work including but not limited to: site lighting conduit, underground duct banks, athletic field conduit, conduit/sleeving required for connection by local utility company, etc. Include all excavation, backfill and compaction as required per Specifications. Include all coordination with Construction Manager, Site Contractor, Masonry Contractor, Soils Technician, Local Utility Company and Site Lighting Plan. Include all restoration work as required. All electrical manholes/handholes /etc. This work to occur early in construction phase of project and per directives of CM.
37. Power connection to all equipment that is furnished by others which requires power (i.e.: Plumbing equipment, HVAC equipment, Division 10, Division 11, etc.) to be by Electrical Contractor. This includes complete installation of raceways and electrical components and Final Connections specified under each specification but not specifically shown on drawings.
38. Occupancy sensor system as indicated on documents.
39. All schedules, as-builts, identification, etc. as required per Plans and Specifications. NOTE: All existing overhead equipment, pull boxes, and main feeders to be ID'd on the asbuilts for record. This should be documented during the demo and ceiling grid replacement scope when 100% of the existing ceiling will be exposed.
40. NOTE specific requirement to replace ALL existing panel schedules with new per the plans and Specs. Coordinate all this exploratory work with CM.
41. Smoke and duct detectors are furnished and wired by BP1600. Installation of duct detectors is by BP1550.
42. All necessary phasing of electrical/fire alarm/data/telecom work to accommodate the construction schedule. This will be multi phased and assume multiple mobilizations.
43. Any exterior lighting at entry canopy as may be required. Coordinate with canopy provide as necessary.
44. All work associated with light fixtures in replacement lay-in ceiling. NOTE 100% of the lay in ceiling will be replaces throughout the school year. Coordinate with CM and BP 980 on sequencing.
45. Install magnetic door hold opens (Hardware provided by BP800).
46. Include salvage of items called out on the plans and documents and transportation to NHCSS maintenance facility.
47. Wire guards required for items as indicated in Plans and Specifications.
48. Ensure exposed conduits are installed parallel or perpendicular to structure. Vertical runs are to be plumb. In areas where existing work may become exposed, rework as necessary for a clean appearance.
49. Include all necessary isolation and/or expansion connections as required to complete work.
50. The Plumbing Contractor/BP1540 and HVAC Contractor/BP1550 shall furnish all motor starters, disconnect switches and combo starters for Equipment and turn over to Electrical Contractor/BP1600 for installation.
51. Additional to requirements on the Contract Documents, BP1600 will be responsible to provide all electrical connections, conduit, boxes, back boxes and wiring to power sources and control locations for other electrically powered devices listed under Division 12.
52. Include pre-startup of all equipment with factory representative prior to commissioning.
53. Include ground fault testing of switchgear(s) prior to building being energized.
54. Backfill and excavation for all under slab electrical to all specified compaction requirements related to electrical scope of work. It is the responsibility of this subcontractor to remove spoils from underground installation, and the removal of spoils to the outside of building walls. Excess spoils are to be placed in designated area on site as directed by the Construction Manager for removal of spoils by BP3100.
55. **All electrical work dealing with the installation of the mobile units (this will be a separate permit) will be included in this scope**. Reference AM1.0, C2.0 –C6.0, and E1.41 & E1.42 for requirements
    a. All underground piping/conduit/wire
    b. All terminations to trailers
    c. All gear associated with the trailer units
    d. Any and all housekeeping pads needed to facilitate work
    e. All brackets, uni-strut, boxes, hand holes, fasteners, adhesives, etc needed for a complete and functional system.
    f. CM will coordinate transformer installation with DEP
    g. DEP transformer infrastructure and wire (final terminations by DEP)
    h. All LV wiring and cabling including DATA/FA/security/PA
    i. All DATA patch gear including routing from existing IDF to trailer location.
    j. Including ALL disconnection/demo of underground utilities, and site restoration following the removal of the units at the completion of the project.

Priority Task Items:
1. As directed by Construction Manager.
2. Prioritized material deliveries as directed by Construction Manager.
3. Pre-installation conference.

Work Scope Sequence:
1. As directed by Construction Manager.

Allowances:
1. 120 Hours for electrician to point up and punch existing overhead electrical work (all LV included) when ceiling grid replacement is going on, all material included. This will include but not limited to: Reinstalling missing coverplates, Additional support of conduits if needed, Support of existing pull boxes, any additional couplings, repair work to existing boxes as needed to make existing overhead installation acceptable. There will be NO circuit identification on existing J-boxes. All time to be time verified and tracked by CM. Coordinate this work with the ceiling grid replacement scope of this project.

Unit Prices:
1. Rate per laborer hour regular time
2. Rate per laborer hour overtime
3. Rate per supervisor hour regular time
4. Rate per supervisor hour overtime
5. Rate per mechanic hour regular time
6. Rate per mechanic hour overtime

Alternates:
G-2 Athletic Support Space Renovations (This one involves P, M & E work)

M-2 Mechanical Equipment Replacement in the Gymnasium

E-1 Preferred Intercom System

END OF SECTION

Section Four

Schedule

Trask Middle School Renovations

BID DEFAULT SCHEDULE NARRATIVE

The attached Bid Default Schedule has been compiled for each bidder's use in determining approximate time frames for work of their bid packages. This schedule has been compiled to assist each bidder and give approximate durations for work as well as to provide clear information as to how the project will be constructed. The CM will not accept any costs above the bid due to time periods being modified upon completion of the final project construction schedule. By submitting a bid for this project it is understood that your firm has carefully reviewed this schedule and does not take issue with the time frames and/or sequence set forth and understand that subcontractor feedback will be required to finalize the project construction schedule once all bidders are on board.

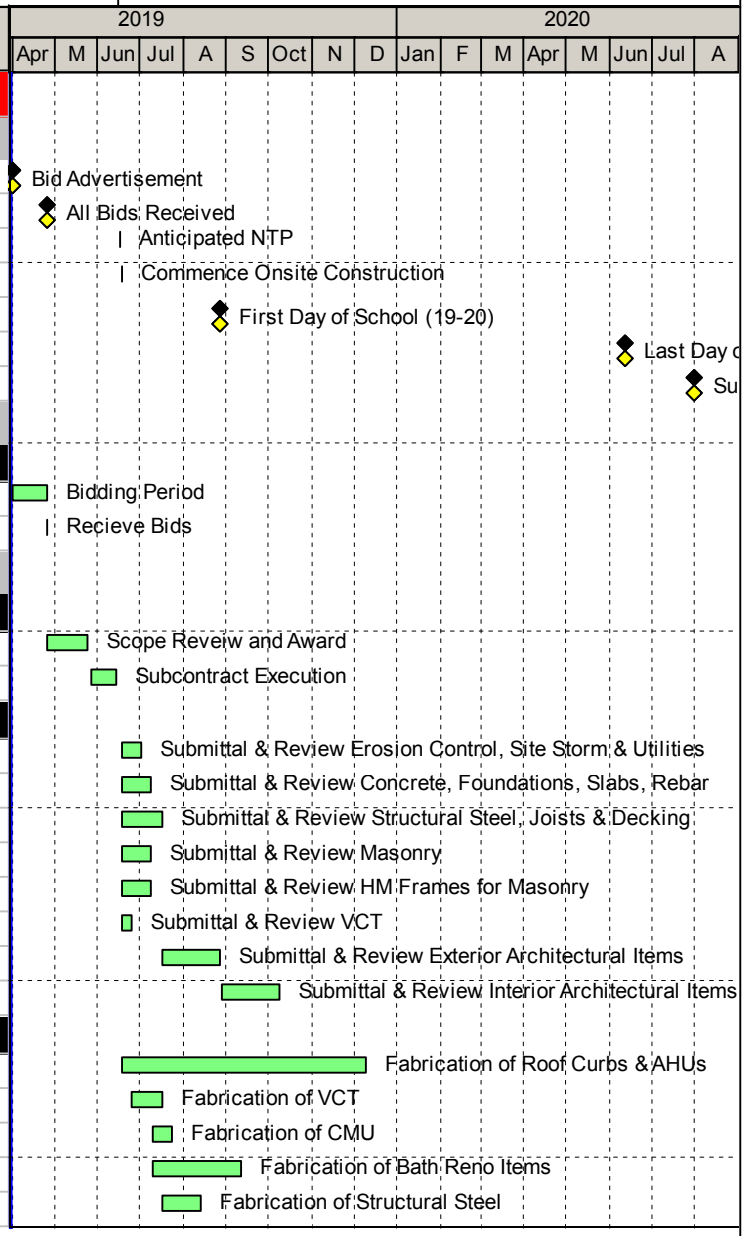
It should be understood that a detailed schedule will be produced prior to starting work on this project. Upon notification of Letter of Intent, the CM will request participation in schedule development from each bidder and will consider modifications to the schedule considering it does not impact the overall schedule and/or delay the schedule as currently built.

PROJECT MILESTONE DATES

The schedule below contains certain specific dates derived from the Bid Default Schedule which are shown for reference only. All dates indicate midnight unless otherwise stipulated. Refer to Paragraph 4 in the Subcontract Agreement for further details.

Notice to Proceed on Site Construction Activities	June 17, 2019
First Day of School (19-20)	August 27, 2019
Last Day of School (19-20)	June 11, 2020
Substantial Completion	July 31, 2020

Activity ID	Activity Name	OD	Start	Finish
Trask Middle School Renovation		337	01-Apr-19	31-Jul-20
Project Milestones		337	01-Apr-19	31-Jul-20
MILE 1000	Bid Advertisement	0	01-Apr-19*	
MILE 1010	All Bids Received	0		25-Apr-19
MILE 1020	Anticipated NTP	1	17-Jun-19	17-Jun-19
MILE 1030	Commence Onsite Construction	1	18-Jun-19	18-Jun-19
MILE 1040	First Day of School (19-20)	0	27-Aug-19*	
MILE 1050	Last Day of School (19-20)	0		11-Jun-20*
MILE 1060	Substantial Completeion	0		31-Jul-20*
Preconstruction		19	01-Apr-19	25-Apr-19
Bidding		19	01-Apr-19	25-Apr-19
BID 100	Bidding Period	19	01-Apr-19	25-Apr-19
BID 105	Recieve Bids	1	25-Apr-19	25-Apr-19
Procurement		156	26-Apr-19	09-Dec-19
Subcontract Execution		35	26-Apr-19	14-Jun-19
AWRD 100	Scope Reveiw and Award	20	26-Apr-19	24-May-19
AWRD 110	Subcontract Execution	15	27-May-19	14-Jun-19
Submittals		80	18-Jun-19	09-Oct-19
SUBM 100	Submittal & Review Erosion Control, Site Storm & Utilities	10	18-Jun-19	01-Jul-19
SUBM 110	Submittal & Review Concrete, Foundations, Slabs, Rebar	15	18-Jun-19	09-Jul-19
SUBM 120	Submittal & Review Structural Steel, Joists & Decking	20	18-Jun-19	16-Jul-19
SUBM 130	Submittal & Review Masonry	15	18-Jun-19	09-Jul-19
SUBM 140	Submittal & Review HM Frames for Masonry	15	18-Jun-19	09-Jul-19
SUBM 170	Submittal & Review VCT	5	18-Jun-19	24-Jun-19
SUBM 150	Submittal & Review Exterior Architectural Items	30	17-Jul-19	27-Aug-19
SUBM 160	Submittal & Review Interior Architectural Items	30	28-Aug-19	09-Oct-19
Fabrication & Delivery of Long Lead Materials		120	18-Jun-19	09-Dec-19
FAB 1030	Fabrication of Roof Curbs & AHUs	120	18-Jun-19	09-Dec-19
FAB 1020	Fabrication of VCT	15	25-Jun-19	16-Jul-19
FAB 1010	Fabrication of CMU	10	10-Jul-19	23-Jul-19
FAB 1040	Fabrication of Bath Reno Items	45	10-Jul-19	11-Sep-19
FAB 1000	Fabrication of Structural Steel	20	17-Jul-19	13-Aug-19

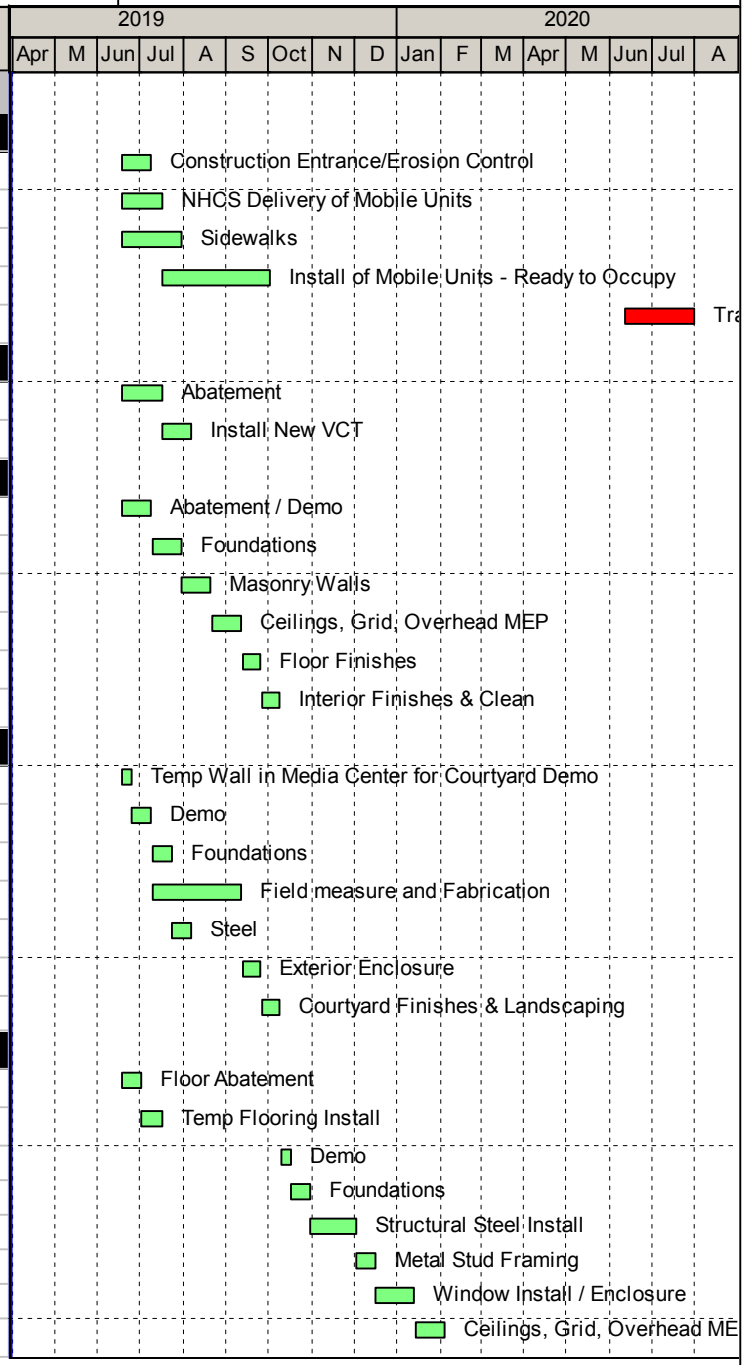


Actual Work
Remaining Work
Critical Remaining Work

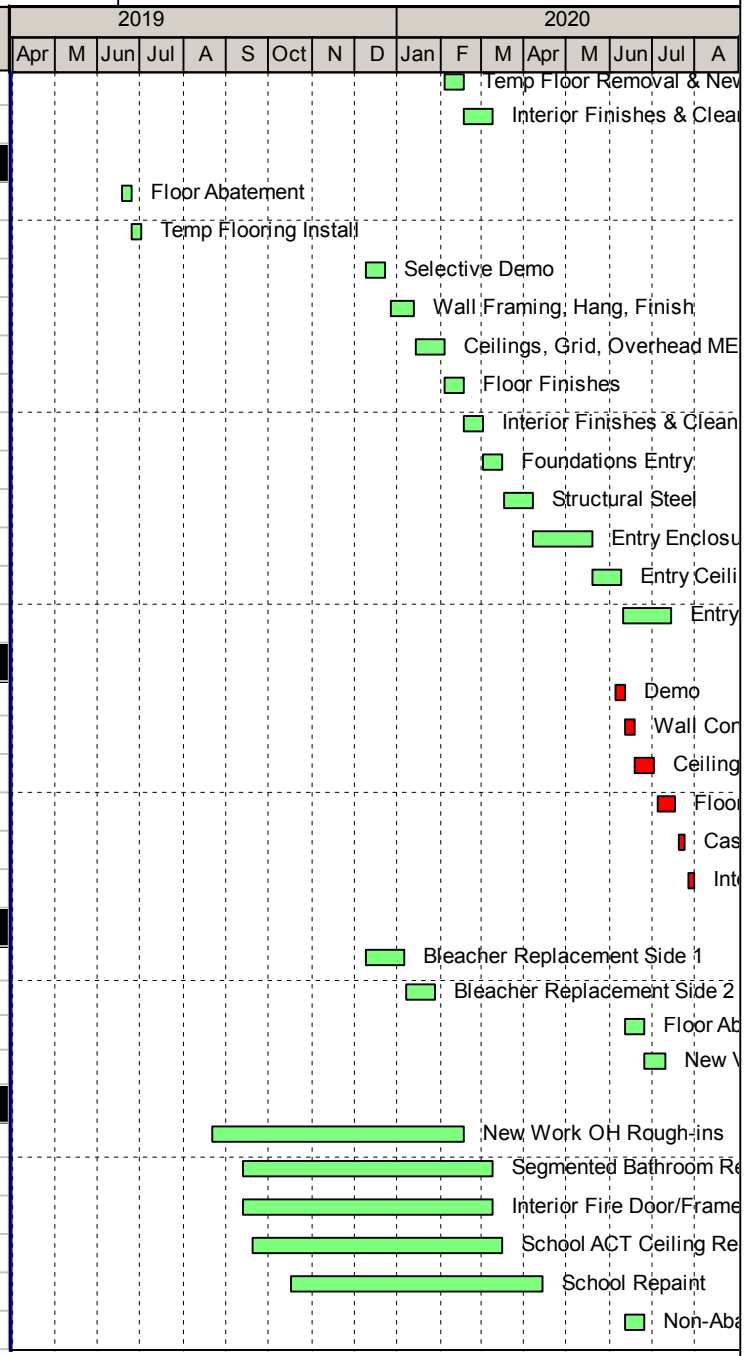
Trask Middle School Renovation
Bid Default Schedule

BARNHILL CONTRACTING COMPANY

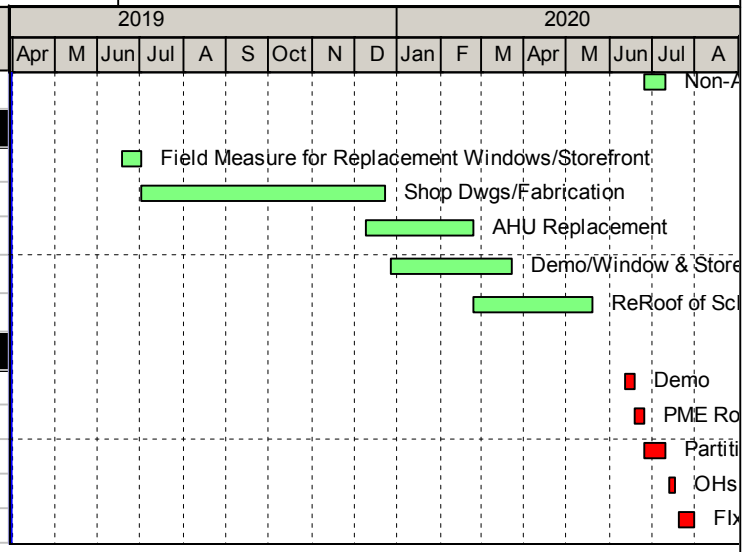
Activity ID	Activity Name	OD	Start	Finish
Construction		282	18-Jun-19	31-Jul-20
Sitework & Temp Classroom Trailers		282	18-Jun-19	31-Jul-20
A1000	Construction Entrance/Erosion Control	15	18-Jun-19	09-Jul-19
A1010	NHCS Delivery of Mobile Units	20	18-Jun-19	16-Jul-19
A1030	Sidewalks	30	18-Jun-19	30-Jul-19
A1020	Install of Mobile Units - Ready to Occupy	55	17-Jul-19	02-Oct-19
A1040	Traffic Circle & Associated work	35	12-Jun-20	31-Jul-20
Cafeteria Area		35	18-Jun-19	06-Aug-19
B1000	Abatement	20	18-Jun-19	16-Jul-19
B1010	Install New VCT	15	17-Jul-19	06-Aug-19
Science Wing		80	18-Jun-19	09-Oct-19
C1000	Abatement / Demo	15	18-Jun-19	09-Jul-19
C1010	Foundations	15	10-Jul-19	30-Jul-19
C1020	Masonry Walls	15	31-Jul-19	20-Aug-19
C1030	Ceilings, Grid, Overhead MEP	15	21-Aug-19	11-Sep-19
C1040	Floor Finishes	10	12-Sep-19	25-Sep-19
C1050	Interior Finishes & Clean	10	26-Sep-19	09-Oct-19
Courtyard Area		80	18-Jun-19	09-Oct-19
D1000	Temp Wall in Media Center for Courtyard Demo	5	18-Jun-19	24-Jun-19
D1010	Demo	10	25-Jun-19	09-Jul-19
D1020	Foundations	10	10-Jul-19	23-Jul-19
D1040	Field measure and Fabrication	45	10-Jul-19	11-Sep-19
D1030	Steel	10	24-Jul-19	06-Aug-19
D1050	Exterior Enclosure	10	12-Sep-19	25-Sep-19
D1060	Courtyard Finishes & Landscaping	10	26-Sep-19	09-Oct-19
700 Series Wing		180	18-Jun-19	09-Mar-20
E1000	Floor Abatement	10	18-Jun-19	01-Jul-19
E1010	Temp Flooring Install	10	02-Jul-19	16-Jul-19
E1020	Demo	5	10-Oct-19	16-Oct-19
E1030	Foundations	10	17-Oct-19	30-Oct-19
E1040	Structural Steel Install	20	31-Oct-19	02-Dec-19
E1050	Metal Stud Framing	10	03-Dec-19	16-Dec-19
E1060	Window Install / Enclosure	15	17-Dec-19	13-Jan-20
E1080	Ceilings, Grid, Overhead MEP	15	14-Jan-20	03-Feb-20



Activity ID	Activity Name	OD	Start	Finish
E1070	Temp Floor Removal & New VCT install	10	04-Feb-20	17-Feb-20
E1090	Interior Finishes & Clean	15	18-Feb-20	09-Mar-20
Admin Area / Entry		270	18-Jun-19	15-Jul-20
F1000	Floor Abatement	5	18-Jun-19	24-Jun-19
F1010	Temp Flooring Install	5	25-Jun-19	01-Jul-19
F1020	Selective Demo	10	10-Dec-19	23-Dec-19
F1030	Wall Framing, Hang, Finish	10	27-Dec-19	13-Jan-20
F1040	Ceilings, Grid, Overhead MEP	15	14-Jan-20	03-Feb-20
F1050	Floor Finishes	10	04-Feb-20	17-Feb-20
F1060	Interior Finishes & Clean	10	18-Feb-20	02-Mar-20
F1070	Foundations Entry	10	03-Mar-20	16-Mar-20
F1080	Structural Steel	15	17-Mar-20	06-Apr-20
F1090	Entry Enclosure	30	07-Apr-20	19-May-20
F1100	Entry Ceilings, Overhead MEP	15	20-May-20	09-Jun-20
F1110	Entry Finishes & Clean	25	10-Jun-20	15-Jul-20
Media Center		40	05-Jun-20	31-Jul-20
G1000	Demo	5	05-Jun-20	11-Jun-20
G1010	Wall Construction	5	12-Jun-20	18-Jun-20
G1020	Ceilings, Grid, Overhead MEP	10	19-Jun-20	02-Jul-20
G1030	Floor Finishes	10	06-Jul-20	17-Jul-20
G1040	Casework	5	20-Jul-20	24-Jul-20
G1050	Interior Finishes & Clean	5	27-Jul-20	31-Jul-20
Gymnasium Area		147	10-Dec-19	10-Jul-20
H1000	Bleacher Replacement Side 1	15	10-Dec-19	06-Jan-20
H1010	Bleacher Replacement Side 2	15	07-Jan-20	27-Jan-20
H1020	Floor Abatement	10	12-Jun-20	25-Jun-20
H1030	New VCT Install	10	26-Jun-20	10-Jul-20
General Building		222	21-Aug-19	10-Jul-20
I1010	New Work OH Rough-ins	120	21-Aug-19	17-Feb-20
I1000	Segmented Bathroom Renos	120	12-Sep-19	09-Mar-20
I1060	Interior Fire Door/Frame Replacement	120	12-Sep-19	09-Mar-20
I1020	School ACT Ceiling Replacement	120	19-Sep-19	16-Mar-20
I1030	School Repaint	120	17-Oct-19	13-Apr-20
I1040	Non-Abatement Flooring Demo	10	12-Jun-20	25-Jun-20



Activity ID	Activity Name	OD	Start	Finish
I1050	Non-Abatement New Flooring Install	10	26-Jun-20	10-Jul-20
Roof and Exterior		230	18-Jun-19	19-May-20
J1020	Field Measure for Replacement Windows/Storefront	10	18-Jun-19	01-Jul-19
J1030	Shop Dwgs/Fabrication	120	02-Jul-19	23-Dec-19
J1000	AHU Replacement	50	10-Dec-19	24-Feb-20
J1040	Demo/Window & Storefront Replacement	60	27-Dec-19	23-Mar-20
J1010	ReRoof of School in Segements	60	25-Feb-20	19-May-20
Locker Room (Alternate)		35	12-Jun-20	31-Jul-20
K1000	Demo	5	12-Jun-20	18-Jun-20
K1010	PME Rough-ins	5	19-Jun-20	25-Jun-20
K1020	Partition Construction	10	26-Jun-20	10-Jul-20
K1030	OHs & Ceilings	5	13-Jul-20	17-Jul-20
K1040	FIxtures, Finishes & Trim Out	10	20-Jul-20	31-Jul-20



Section Five

General Requirements

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PROJECT SPECIFIC REQUIREMENTS 20

PROJECT SPECIFIC REQUIREMENTS

DEFINITIONS

Where used in these PROJECT SPECIFIC REQUIREMENTS, the following terms are defined as follows:

Project:	Trask Middle School Renovations
Location:	Wilmington, NC
Owner:	New Hanover County Schools
Architects:	Sawyer, Sherwood and Associates
Construction Manager:	Barnhill Contracting Company

WORKING HOURS

A. The site will be open from 7:00am to 5:30pm Monday through Friday at a minimum. Work hours may be revised to be in the best interest of the project. If change is required, consult with the Construction Manager.

B. It is agreed that the Subcontractor will utilize weekday overtime, additional shifts, and/or weekends, as necessary to maintain the project schedule at no additional cost to the Project. Subcontractors shall not utilize overtime and weekend work in lieu of providing adequate manpower through the normal workweek.

FIELD OFFICES

A. The Construction Manager will provide field office and telephone for his exclusive use. The project will endeavor to make space available for subcontractor field offices. Each subcontractor is responsible to provide his own field office trailer/up fit, security, telephone and other utilities. The Construction Manager must approve location and availability.

SECURITY

A. Responsibility for the security of materials and facilities shall remain that of the subcontractor, providing/installing same.

TEMPORARY AND REQUIRED FIRE PROTECTION

A. Each subcontractor must provide temporary fire protection system(s) within the immediate area of his work, as required by the local Fire Marshal, local, state and federal and insurance underwriter requirements. Subcontractors welding and/or utilizing a cutting torch or any other operation involving fire potential, shall utilize an individual Fire Watch at all times.

HOISTING AND SCAFFOLDING

A. Training, planning, certification and inspections in accordance with the Project Safety Plan and all OSHA requirements.

B. Subcontractors shall provide all scaffolding, hoisting, ladders or lifts required to complete their scope of work, including professional design services relating to structural loading of the structure.

C. Hoisting/Vertical transportation for men and materials will be furnished by subcontractor. Temporary ladders or stairs to each floor of the building will be furnished by others.

EXISTING STREETS/ACCESS TO WORK

A. Each subcontractor is responsible for the necessary cleaning and repairing of existing streets resulting from said Subcontractor's operations including deliveries of materials or equipment to that subcontractor.

This subcontractor shall be responsible for cleaning trucks prior to leaving the site to prevent the distribution of mud and debris onto private or **City of Wilmington** owned streets.

B. All subcontractors shall be responsible for damage to adjacent existing areas resulting from operations and in performing work under this contract. Damage resulting from the transportation of materials through the grounds shall be repaired by the responsible party or parties.

C. Use of parking on site is limited. Coordinate parking with Construction Manager. Offsite parking if required will be the responsibility of the subcontractor.

D. Any damage to streets, drives, curb and gutters, lawns or structures shall be repaired and or replaced at no cost to the Owner. See Plans for areas that will be removed and must be replaced following installation of new work.

E. All Construction Personnel associated with the project will strictly comply with the Behavior of Construction Personnel as outlined in the Project Specific Requirements contained herein. Any deviation to the required Conduct will be swiftly and severely dealt with by the Construction Manager, including immediate discharge of offending personnel.

F. Subcontractors are prohibited from discharging any waste products from concrete trucks or any other unsuitable materials, fluids or products on the site or into the sewer system. A concrete wash area will be identified at the project site or on surrounding properties.

EXCAVATION — EROSION CONTROL

A. Each subcontractor performing excavation, trenching, etc. must provide and maintain proper shoring, bracing slope protection and access in accordance with OSHA requirements AND the Project Safety Plan. Engineering services required to meet OSHA and SSIPP regulations shall be the responsibility of the subcontractor. Subcontractor is responsible for all notifications to both public and private utility companies for the purpose of locating and protecting existing utility installations.

B. Any land disturbing activity performed by the subcontractor, in connection with the project, shall comply with all erosion control measures set forth in the contract documents and any additional measures which may be required in order to ensure that the project is in full compliance with the Sedimentation Pollution Control Act of 1973, as implemented by Title 15, North Carolina Administrative Code, Chapter 4, Sedimentation Control, Subchapters 4A, 4B and 4C, as amended (15 N.C.A.C 4A, 4B and 4C). In addition, the subcontractor shall comply with the following requirements:

1. Equipment utilized during the construction activity on a site must be operated and maintained in such a manner as to prevent the potential or actual pollution of the surface or ground waters. Fuels, lubricants, coolants, and hydraulic fluids, or any other petroleum products shall not be discharged on to the ground or into surface waters. Spent fluids shall be disposed of in a manner so as not to enter the waters, surface or ground, and in accordance with applicable state and federal disposal regulations. Any spilled fluids shall be cleaned up to the extent practicable and

   disposed of in a manner so as not to allow their entry into the waters, surface of the ground, storm sewers, or drains on private or public (State) property.

2. Herbicide, pesticide, and fertilizer usage during the construction activity shall be restricted to those materials approved by EPA and shall be used in accordance with label restrictions.
3. Minimum Monitoring and Reporting Requirements (unless otherwise approved in writing) by the Division of Environmental Management shall be complied with. The subcontractor installing any erosion control device shall comply with the following requirements:

   a. All sedimentation and erosion control of facilities shall be inspected by the responsible

subcontractor at least once every **seven (7)** calendar days and within **24 hours** after any storm event of greater than one half inch (0.5") inch of rain per 24-hour period and documented.

b. Storm water runoff discharges shall be inspected by visual observation for color, foam, outfall staining, visible sheen; dry weather flows and muddy water (at the frequency described above) to evaluate the effectiveness of the pollution control facilities or practices. If any visible off-site sedimentation is leaving the site, corrective action shall be taken immediately to reduce the discharge of sediments.

c. The subcontractor shall submit to the Owner & Construction Manager a written report of weekly inspections. Visible sedimentation found off the site shall be recorded with a brief explanation as to the measures taken to prevent future releases as well as any measures taken to clean up the sediment that has left the site. This record shall be made available to NCDENR or authorized agent upon request.

5. The subcontractor shall keep all erosion controls devices and materials in good repair. The Construction Manager / Owner reserve the right, with 24 hours prior notice to the subcontractor to repair any erosion control measures or materials as required, and deduct the cost of those repairs from the sub/trade contractor's application for payment.

OPENINGS, BLOCKING, BACKING AND GROUNDS

A. Unless noted otherwise in the Bid Package Scope of Work Summaries, each Subcontractor must be responsible for furnishing and installing the blocking, backing and grounds necessary for the installation of their work.

B. Each subcontractor must make suitable preparations for the installation of their work, including all piping, conduit, hangers, inserts, anchors, grounds and supports that are to be embedded in concrete, masonry walls, floors, partitions or structural members, or that are to pass through or be attached thereto. Each subcontractor must provide and install proper sleeves, boxes, receptacles or chases for all openings or recesses to receive his work occurring in or passing through any such members, all of which must be located accurately and secured firmly in place before any such masonry has been erected or concrete poured. If required to meet the project schedule or directed by the Construction Manager, this work will be installed on overtime at no additional cost. Core drilling is the responsibility of each subcontractor and will occur only under the supervision of the Construction Manager and with the approval of the Structural Engineer.

EXISTING UTILITIES AND STRUCTURES

A. The term existing utilities shall be deemed to refer to both publicly-owned and privately-owned utilities such as, but not limited to, electric power and lighting, telephone, cable TV, water, gas, storm drains, and sanitary sewers, and all appurtenant structures.

B. Where possible, the pipe alignment has been selected to avoid existing structures (including utility poles and buildings) and utilities.

C. The work shall be carried out in a manner to prevent disruption of existing services and to avoid damage to the existing utilities. Temporary connections shall be provided, as required, to insure uninterruption of the existing services. Any damage resulting from the work of this Contract shall be promptly repaired by the subcontractor at his own expense in a manner approved by the Engineer and further subject to the requirements of any authority having jurisdiction. Where it is required by the authority having jurisdiction that they perform their own repairs or have them done by others, the subcontractor shall be

responsible for all cost thereof. Where excavations by the subcontractor require any utility lines or appurtenant structures to be temporarily supported and otherwise protected during the construction work, such support and protection shall be provided by the subcontractor. All such work shall be performed in a manner satisfactory to the Engineer and the respective authority having jurisdiction over such work. In the event that the subcontractor fails to provide proper support of protection to any existing utility, the Engineer may, at his discretion, have the respective authority provide such support or protection as may be necessary to insure the safety of such utility; and the costs of such measures shall be paid by the subcontractor.

FIELD VERIFICATION OF UTILITIES AND INTERFERENCES

A. The subcontractor shall be responsible for field verification of the location and elevation of all utilities and structures which cross the work sites or which may be affected by his/her operations. Whenever directed by the Engineer, the subcontractor shall excavate to verify exact locations or elevations of utilities or other interferences in order to assure proper protection of existing utilities or structures. No extra payment will be made for such field verification or any excavations or other work or expense incurred by the subcontractor in properly locating and protecting utilities or other interferences.

CUTTING AND PATCHING

A. The subcontractor shall ensure satisfactory performance of all cutting, fitting or patching that may be required to make the Work come together properly and fit to receive or be received by Work of other subcontractors shown upon or reasonably implied by the drawings and specifications for the completed structure, as the Construction Manager may direct.

B. Any cost brought about by defective or ill-timed Work shall be borne by the party responsible therefore.

C. No subcontractor shall endanger any Work of another such subcontractor by cutting, digging, or other means, nor shall he cut or alter the Work of any other such subcontractor without the consent of the Construction Manager.

D. Prior to cutting, which affects structural safety of project or work of another contractor, submit written notice to The Construction Manager requesting consent of the Architect/Engineer to proceed with cutting, including:

1. Description of affected work and necessity for cutting.
2. Affect on other work on structural integrity of project.
3. Description of proposed work. Designate the scope of cutting and patching; contractor and trades to execute work; products proposed to be used, extent of refinished; required shoring/bracing.
4. Designation of party responsible for cost of cutting and patching.

CLEANING UP

Each subcontractor must:

A. Clean up all waste materials, rubbish and debris resulting from operations on a daily basis to trash receptacles provided for either by this subcontractor or others.

B. Remove grease, dirt, stains, labels, scribe lines, prints and other foreign materials from the interior and exterior surfaces of material, fixtures, hardware and equipment furnished as a part of the subcontract.

C. Repair, patch and touch-up or replace marred surfaces damaged prior to final acceptance by the Owner, in accordance with the requirements of the Contract Documents.

D. The continuous cleanup of waste materials, packaging materials and general debris generated by this subcontractor is the responsibility of this subcontractor. Clean up includes removal of debris from the

building to an area or dumpsters located as designated by the Construction Manager. Designated area or dumpsters may be located on-site or at a location adjacent to the site. Construction Manager will provide dumpsters for project use. In addition, some subcontractors will have dumpster requirements as part of their specific scope of work, subcontractors such as masonry/stone, cast in place concrete, structural steel, intumescent and spray-on fire proofing, roofing, drywall, mechanical and electrical. These contractors may be required to provide their own dumpsters, with specific requirements identified in the bid packages.

COORDINATION DRAWINGS

This project will utilize Building Information Modeling (BIM) to help facilitate the preparation of coordinated drawings for submission to the Architect. This coordination effort will be led by the CMAR with input from all PME trades as described below:

1. The Subcontractor shall be responsible for creating 3D and 2D coordination shop drawings of all vertical and horizontal work required to responsibly coordinate each trade.

2. The CMAR shall provide a base line 3D model and 2D base line CAD file to base all coordination documents from. This model shall be produced per the contract construction drawings and specs.

3. The order of precedence for location above the ceilings is to be as follows (i.e. Gravity piping systems will take precedence over non-gravity systems): recessed electrical light fixtures, overhead casework or structural supports (modifications not included), plumbing sloped systems, ductwork and above ceiling mounted equipment, electric cable tray, HVAC piping, plumbing piping (domestic water, and special gases), fire protection, and electrical conduit.

4. All ceiling overhead items must be coordinated to provide accessibility to accommodate lower ceiling heights. This subcontractor shall include all necessary offsets, etc., to provide drop downs or other means of providing more accessible overhead devices. All costs associated with relocating above ceiling overhead to more accessible elevations due to improper coordination efforts shall be borne by this subcontractor.

5. An initial "kickoff" meeting will be held prior to the production of any coordination drawings to establish milestone dates, sequencing, resolve major interferences, etc. After that, Weekly Coordination Meetings will be required and scheduled by the CMAR. These meetings will be mandatory for all trades involved in coordination and will continue until all clashes have been resolved.

    i. Each trade/subcontractor shall make each respective team available for one meeting per week (of a minimum 8 hours) for duration of notice of award until all buildings have completed coordination drawings.
        1. Coordination efforts are not to take place strictly on the day of the in-person meeting. Coordination efforts shall be ongoing at all times during the week. The intent of the in-person meetings is to evaluate any major conflicts or areas of concern and to collaborate on the drawings generated over the past week.

6. The CMAR shall publish a list of the required 3D coordination drawings with due dates for each.

7. Subcontractor is responsible for identifying all potential conflicts with building structure systems/elements. Subcontractor shall include all required piping/duct modifications, fittings, etc. to comply with final system layouts with approved coordination drawings and/or to comply with field conditions for connections to existing utilities at no additional cost to Contractor.

8. After each subcontractor has fulfilled its obligations it shall return the drawings and electronic files to the CMAR. The CMAR shall be responsible for merging the drawings into a single coordination drawing for submittal to the Architect/Engineer for review and comments.

9. Each Subcontractor having input into the production of 3D coordination drawings will be required to sign off on acceptance of the final coordination drawings prior to the commencement of its or other participants work in any given area. All costs attributable to failure of a subcontractor to provide its timely approval of the coordination drawings or failure to cooperate in the production or assembly of input for said drawings shall be borne by such Subcontractor.

10. This coordination activity includes above and below ground work of HVAC, plumbing, fire protection, electronic systems integrator, telecommunications, AV, fire alarm, electrical work, etc. within five feet (5') of the building line.

11. The coordination activity is to include work in all above/below grade, exterior/site, and interior locations.

12. Provide all coordination necessary to be certain that all device outlets are installed level, plumb, and flush with respective finishes.

13. Include all necessary coordination with the architectural model so as to provide all outlet(s) and raceway openings made by the architectural model. This contractor will be solely responsible for all cost associated with repair and/or replacement of architectural feature damaged due to outlet(s) and/or raceway openings being made by him or his subcontractors and or incorrect coordination and direction provided by this subcontractor.

14. All plans (minimum ¼" scale) and sections (3/8" scale) shall show building room layouts, structural steel elements, sprayed fireproofing, pipe with insulation, conduit over one and one-half inch (1½"), racks of more than three (3) pipes or conduit, and all ductwork including insulation thickness, regardless of size.

15. If any subcontractor fails to produce all of its initial 3D coordination drawings within the time allocated, the CM will produce said drawings, and all the costs of producing said drawings will be at the expense of the Subcontractor.

16. The CMAR will determine the method to be used to resolve interference problems not identified prior to execution of the work. The cost of rework and relocation's directed by the CM will be the responsibility of the Subcontractor having installed affected items. In the event of a dispute, CMAR's decision will be final.

17. Upon completion of the Coordination Drawings it shall be the responsibility of each subcontractor to provide sufficient copies of the accepted coordination drawings to their respective Superintendents, Foreman's, lower tiered subcontractors and installers in the field. As a minimum each subcontractor shall have (1) set of the accepted coordination drawings on each floor of the project. It is the responsibility of each subcontractor to continually review and communicate with all other Trades in advance of the installation any issues and/or conflicts that require variance from the reviewed and accepted coordinated drawings.

18. Coordination drawings as detailed are included:
2D Coordination drawings showing all horizontal and vertical dimensions of the work shall be prepared by mechanical, electrical, plumbing and fire protection subcontractor's as well as others as required or designated by the Contract Documents, Scope of Work or as directed by the Construction Manager (CM).

This information is to be generated directly from the 3D coordinated model. Additionally, each subcontractor is responsible for getting this information into a usable format for their surveyors.

19. Subcontractor to verify equipment layouts can achieve maintenance needs, coil removals, etc.

20. Subcontractor is responsible for developing all floor and ceiling layout back drop files and shall not assume Architect files will be available for use to develop shop drawings or coordination drawings. As indicated above, any drawings released by the Design Team to the Construction Manager will be made available to the coordinating subcontractors.

21. Completion of the coordination drawing process will be a requirement for pay request release of funds after the allotted specified time period.

22. Right hand vs. left hand equipment to be provided as required and deemed necessary by the Construction Manager during the MEP coordination process. For example, if a condensate riser is installed between two FCU's, one unit shall have the condensate stubbed out the left side of the equipment while the other unit shall be stubbed out the right side of the equipment. The intent of this comment is not to be limited to FCU's; it shall encompass all equipment.

23. In general, each coordinating subcontractor shall have minimum of 3 previous projects that they have created 3D Building Information Models for the purposes of coordination. In addition, have a minimum of three (3) persons on staff that are capable of performing the required 3D modeling responsibilities for this project. If additional manpower is required to maintain schedule, such manpower shall be provided at no cost to the Construction Manager or Owner. Shall a prequalified Subcontractor not meet this requirement, they shall hire a local consultant to complete the work on their behalf; local consultant shall be able to participate in weekly coordination meetings in person (if required.)

24. Upon completion of the MEP coordination efforts, this subcontractor shall continuously maintain as-built drawings as the project progresses. As built drawings shall be distributed to the project team on a monthly basis and shall be updated with changes as issued by the design team. Should drawing changes be issued by the design team and need to be incorporated into the model immediately, Subcontractor agrees to expedite the incorporation of stated drawings into the model as directed by Construction Manager with no overtime charges.

25. At the completion of the submittal process, this Subcontractor shall be responsible to upload all submittal information into the Building Information Model. This includes product data and shop drawings for valves, FCU's, motors, starters, VFD's, AHU's, etc. The format for including this information in the model shall be discussed during the MEP/BIM kickoff meeting.

26. At the completion of the project, as-built drawings shall be completed in the Building Information Model and turned over to the Construction Manager, both in a model compatible with Navisworks as well as 2D CAD drawings.

GENERAL PROTECTION

A. Where work is conducted above or adjacent to existing construction, each subcontractor must protect the existing construction, as necessary.

B. Concrete floor slabs must be protected from construction damage. No heavy equipment will be permitted on the slabs until the concrete has obtained its designed strength and then only with approval of the engineer, and installation of adequate protection.

C. No work will be performed on concrete floors that would detrimentally affect the finish or appearance of uncovered floors or the application of finish flooring, where called for. Operations such as cutting or threading pipe, burring, welding, paint mixing or clean up of painting, will require protection of the floors by the trade contractor performing the work or may require relocation to an alternate location, at the discretion of the project superintendent.

D. Smoking, eating and drinking (other than water) will not be permitted in the building or building structure at any time during the construction process. Reference "Behavior of Construction Personnel" for more details and requirements.

E. The subcontractor must not cut, weld or use other open flame or spark producing equipment until the location where the work is to be performed is examined by the subcontractor, adequate protection is provided and a fire watch is in place.

F. Any trade creating penetrations through existing walls will be required to patch or seal the area adjacent to those penetrations upon completion of work. Provide all caulking, sating and fire stopping as required for sealing penetrations through all walls, ceilings and floors. All penetrations will be sealed to maintain the rating of the wall, ceiling or floor penetrated.

G. The existing walks, landscaping, lighting, utilities, streets, paving, curb and gutter and the like shall be protected from damage and any such damage shall be repaired/replaced regardless of the safeguards employed.

BEHAVIOR OF CONSTRUCTION PERSONNEL

A. The Construction Manager and Owner will not tolerate any unseemly or detrimental behavior from the construction personnel. If such behavior results, the Owner and Construction Manager may demand immediate dismissal of the offending person from the job site. Any incidents of disrespect, verbal abuse, threatening statements, unwelcome comments, unwelcome interaction or any form of harassment from any construction personnel toward any member of the community is strictly prohibited. Any such act shall constitute sufficient cause for the Construction Manager to request removal of any individual permanently from the project. In addition, any subcontractor, his representative or any project personnel who ignores or refuses to take action on any requirements of the contract documents; ignores or refuses to take immediate action to correct any endangerment to the health and safety of the public, as solely determined by the Construction Manager/Owner, then such inaction shall be sufficient cause for the Construction Manager to permanently remove those individuals from the project. Such action taken by the Construction Manager/Owner shall not constitute grounds for a claim. The Construction Manager/Owner will not be responsible for any delays caused to the project due to any individual being removed from the project by the Construction Manager/Owner.

B. No unsanitary actions will be tolerated on the construction site during the project. Any persons caught performing unsanitary actions will be removed from the jobsite immediately at the sole discretion of the Construction Manager.

C. Harassment of any type will not be tolerated and will result in immediate and permanent dismissal from the project. "Cat calls" are grounds for immediate removal from the project.

D. No personal radios or tape decks will be allowed on site.

E. Subcontractor acknowledges that his employees are required to wear shirts with sleeves and covering the entire upper anatomy of the worker, work boots, eye protection and hard hats with Company Logo and the person's name at all times while on site. No shorts will be permitted. Additional personal protective equipment to be utilized as required.

F. All Construction Traffic and personnel will adhere to the Site Logistics Plan and parking policies. Parking of company owned/insured vehicles and lay down areas will be assigned to subcontractors by the Construction Manager based on availability. Subcontractors will be responsible for providing offsite parking and / or transportation for employee personal vehicles. Designated entry and exit roads will be utilized for deliveries and construction personnel. All deliveries must be scheduled with the Construction Manager. Notification and documentation of all deliveries to the project will also be required. All costs associated with off-site storage and transportation of materials is by the subcontractor.

G. All subcontractors and their employees shall not possess or carry, whether openly or concealed, any gun, rifle, or explosive on any property owned by the Owner. This includes firearms locked in containers, vehicles or firearm racks within vehicles.

H. All subcontractors and their employees are prohibited from profane, lewd, obscene or offensive conduct, including engaging in sexual harassment.

I. Subcontractors shall not manufacture, transmit, conspire to transmit, possess, use or be under the influence of any alcoholic or other intoxicating beverage, narcotic drug, hallucinogenic drug, amphetamine, barbiturate, marijuana or anabolic steroids, or possess, use, transmit or conspire to transmit drug paraphernalia on any property owned by the Owner, except pursuant to a drug prescription by a physician.

J. Smoking or use of any tobacco product is prohibited in any enclosed or occupied facility at all times. The use of tobacco products is prohibited at all times on this site in area routinely occupied by staff, and in enclosed areas of unoccupied sites. An enclosed area for construction projects shall be defined as any dried-in area or as designated by the Construction Manager. Smoking shall be located in designated areas only and as directed by Construction Manager.

K. Subcontractors and their employees shall not solicit from or sell within the Owner's facilities.

L. Operators of all commercial vehicles on any property owned by the Owner shall be subject to post-accident, random, reasonable suspicion and follow-up testing for drugs and alcohol.

M. The subcontractors shall at all times enforce strict discipline and good order among their employees and shall not employ any unfit person or anyone not skilled in the task assigned to them. The Construction Manager or Owner may require the subcontractor to remove any employee that is deemed incompetent, careless, or otherwise objectionable.

LICENSING FOR UTILITY WORK

A. All utility work must be performed by subcontractors licensed to perform that work and should be so indicated on the bid proposal.

SUBMITTALS / SHOP DRAWINGS

A. Submittals and shop drawings will be in accordance with specification requirements and the submittal schedule or as required by the Architect/Engineer. All submittals and shop drawings excluding fully coordinated MEP SHOP drawings, must be submitted within **30 days** of execution of the subcontract or sooner if required by schedule. COORDINATION drawings must be submitted within the required timeline and due dates provided by the CM. Subcontractors are fully responsible for meeting the required submittal dates and allowing for submittal review and resubmittal review time periods. Submittals and shop drawings, if so permitted and/or required by the Contract documents, may be submitted electronically to the Construction Manager.

B. Shop, erection and setting drawings, certificates, catalog cuts and schedules required for work of various trades, shall be checked before submission as hereafter specified, by technically qualified employees of the contractor for accuracy, completeness, and compliance with contract documents. Shop drawings are

defined as drawings in excess of 11x17. Data submittals are sheets from 8.5x11 to 11x17.

C. Shop drawings and samples shall be dated and contain the name of the project, description or names of equipment, materials and items and complete identifications of locations at which materials or equipment are to be installed.

D. No portion of the work shall commence, nor materials ordered, until Architect or Engineer has reviewed shop drawings and samples relative to this portion for compliance. All portions of the work are to be done in accordance with shop drawings and samples bearing the stamp of the Architect or Engineer.

E. Prior to the first shop drawing submittal, each subcontractor shall submit to the Construction Manager, a composite list of all proposed shop drawings and submittals. Schedule will be forwarded to the Architect/Engineer. Identify all items requiring priority review.

F. For all shop drawings, submit one CD of PDF electronic files along with six (6) copies of black line drawings. Each drawing shall have a clear space for stamps. Electronic files will also be acceptable. Contact Construction Manager for final direction.

G. For standard catalog cuts and illustrated items not requiring special shop drawings, submit one CD of PDF electronic files along with six (6) copies for review for compliance with contract documents. Electronic files will also be acceptable. Contact Construction Manager for final direction.

H. Samples

1.) The subcontractor shall be responsible for securing and submitting samples as specified and/or as required by the Architect for his selection and/or review of the products, finish, and colors. Samples shall carry the same identifying items as shop drawings. Minimum Three (3) each of each type of material or color.

2.) The Architect will retain items requiring color selection by the Architect until color samples of all materials requiring color selection have been submitted.

I. **PRE-INSTALLATION CONFERENCE**: Subcontractor shall attend a pre-installation conference conducted by the Construction Manager which may be attended by Architect/Engineer, Owner's representative and Construction Manager's staff as deemed necessary by Contract documents and scope of work. At this conference, subcontractor's personnel, including Project Manager, Superintendent and any other key personnel (including those specifically requested to be in attendance by the Construction Manager) will be introduced and the Scope of work will be discussed along with other key issues such as workmanship, quality control, schedule, safety, logistics, etc.

PROJECT MEETINGS

A. A weekly meeting will be held during progress of the job. The subcontractor is required to have its Project Manager and Superintendent present at these meetings. Information, which must be provided at this meeting, includes:

1. **Written** Status Report indicating the following will be submitted to the Construction Manager by **Noon** of the day before the meeting:

   a) Safety Review
   b) Quality Program
   c) Review of total job schedule, plus two-week look ahead
   d) Equipment and Materials Submittal Status, Current Ship Date and Delivery status for equipment and material
   e) Job progress
   f) RFI Status

g) Coordination Issues

B. The subcontractor shall assure full representation of its company at all job site progress meetings when working on site or when otherwise advised. Representative shall be knowledgeable of the project, their field staff, their field progress, status of equipment and deliveries, work schedule and have the authority to make decisions and commitments to the Construction Manager.

C. In addition to the weekly project meetings, a monthly jobsite progress conference may be held with the owner and designers in attendance. Subcontractor shall be represented at these job progress conferences by both home office and project personnel as directed by the Construction Manager. The purpose of these conferences is to effect coordination, cooperation, and assistance in every practical way toward the end of maintaining progress of the project on schedule and to complete the project within the specified contract time.

SPECIAL PROVISIONS

A. Subcontractor shall visit the Project site to fully acquaint and familiarize itself with the site, surrounding and subsurface conditions and the character of the operations to be carried on at the site, and make such investigations as subcontractor may deem fit or as may be prudent for subcontractor to fully understand the facilities, physical conditions and restrictions attending the Work. It is the intent of this Subcontract that Subcontractor is to furnish for the price, all items required for proper completion of the Work.

B. It is understood and agreed that subcontractor is aware of the necessity of working in cooperation with all the other trades on the Project. It is further understood and agreed that the subcontractor shall perform to Construction Manager's satisfaction at all times with regard to progress and workmanship and to provide sufficient time for the performance of all Work required by the Contract Documents.

C. All safety regulations will be adhered to as required by the local and state codes, the Federal Occupational Safety and Health Act and the Project Safety Plan. Subcontractor will be held liable for any fines levied or delays to the job progress because of his failure to do so.

D. All subcontractors are required to protect and have respect for all adjacent property Owners' fences, entrances, curbs, and green areas. Responsibility and cost of restoration due to subcontractor abuse shall be borne by the subcontractor.

E. Before starting any Work, the Subcontractor shall inspect all surfaces to be finished. He shall notify the Construction Manager in writing of the unsuitability of surfaces for finishing. The commencing of Work, or the absence of the notification in writing, shall be construed as acceptance of the surfaces by the Subcontractor. It shall be the responsibility of the Subcontractor to correct any defects appearing in the finished work thereafter.

F. All subcontractors shall provide and maintain quality workmanship and installations. Any Work that is unacceptable, i.e. does not meet specifications, shall be removed and replaced and/or repaired at no additional cost to the Construction Manager or Owner.

G. The subcontractor shall be responsible for protection of his own work. Subcontractor is liable for damage caused by his forces, sub-subcontractors material suppliers, other subcontractors, until such time as the Owner takes full acceptance of the project. It is the responsibility of the subcontractor(s) to protect all work in place. All materials, equipment, furnishings and finishes required to be new shall be in "new condition" at the time of final acceptance. Those that are deemed as not in "new condition" at the sole discretion of the Designer or Owner shall be removed and replaced with new items(s) at no additional cost to the Owner or Construction Manager.

H. The subcontractor shall in no way interfere with or endanger the pedestrian and vehicular traffic adjacent to and immediately surrounding the project site. Subcontractor shall be fully responsible for all permits, barricades, signage and supervision required for pedestrian/traffic redirection. All requests shall be submitted to the Construction Manager Project Superintendent, prior to proceeding.

I. Adequate and competent supervision will be provided by the subcontractor, on-site at all times when the subcontractor or a sub-subcontractor is performing Work. Supervision cannot be removed from the project without the written permission of the Construction Manager. The name of the subcontractor's superintendent/foreman shall be submitted with qualifications of same prior to start of the Work and shall be approved by the Construction Manager prior to start of the Work. The superintendent/foreman so named by the subcontractor shall be employed by the subcontractor and shall have served in a supervisory capacity on at least one Project of like description and size performed by the subcontractor.

J. Should a conflict be discovered within the Contract Documents, Trade Contractor shall be deemed to have included the greater quantity and/or higher quality.

K. The CM will provide drinking water in the CM Office Trailer. Subcontractor shall also furnish drinking water, coolers, and ice for their personnel.

L. Subcontractor shall replace any safety handrails and barriers taken down or removed during the process of their work and is required fully protect all workers/visitors from any exposure during execution of The Work. Subcontractor must notify the Construction Manager before safety rails, barriers, blockout protection, etc. can be removed, and must proceed in accordance with the Project Safety Plan.

M. Subcontractor shall be responsible for all pumping, demucking and dewatering of their own work or required to perform their work, including rainwater on floors where this subcontractor's operations are in progress and at exterior site excavations or building foundations prior to steel erection, masonry installation or the like.

N. Temporary area lighting per OSHA regulations shall be provided and maintained via the Electrical Subcontractor so designated by the Construction Manager. Task lighting, if required for this subcontractor's work shall be provided by this subcontractor. Subcontractor shall notify the Construction Manager in writing of any area lighting concerns prior to starting work in that area. Temporary power outlets, 110-volt/20 amps will be provided at various locations, utilizing 100 ft maximum distance criteria unless noted otherwise in the Bid Package Scope of Work. Power for electric welding/stud machines will not be provided; subcontractors shall be responsible for providing power for these purposes.

O. Subcontractor is responsible for protection and storage of his work and additional handling. Any available onsite storage space will be coordinated and approved by the Construction Manager. All materials staged/stored in the building shall be placed on pallets in a neat and orderly fashion such that the material maybe moved should it be necessary.

P. All overtime required to obtain project milestones, maintain schedule, and as required for testing and commissioning shall be included in this subcontractor's work.

Q. All applicable taxes and fees associated with this scope of work. This subcontractor shall conform to all tax record keeping and documentation requirements as required by the State of North Carolina.

R. It is understood that this subcontractor, consistent with the terms outlined within the Subcontract Agreement, assumes toward the Construction Manager (CM) and the Owner all obligations that the Construction Manager assumes toward the Owner in the Construction Manager Subcontractor Agreement: Construction Services (Owner Contract) with respect to the work to be performed by the Subcontractor under the Subcontract and that the Construction Manager (CM) shall have the benefits of all rights, redress and remedies against the Subcontractor that the Owner has against the Construction Manager (CM) under the Owner Contract. The Owner Contract is available for review at contractor's field office upon request. It is the Subcontractor's responsibility to review and familiarize itself with the Owner contract and by executing this Subcontract the Subcontractor represents that it has done so. In the event of a conflict between one or more of the Contract documents, the provision imposing the more demanding term, condition, duty or standard of performance, or the greater limitation on the nature and type of relief or damages allowed to the subcontractor, shall control.

S. Any demolition required for the installation of new work but not noted or shown to be demolished, is the responsibility of the subcontractor installing new work. The word "Contractor" shall mean the trade or subcontractor whose work is governed by the specification section.

T. This subcontractor is responsible for all layout and/or Field Engineering of their Work unless noted otherwise by the Construction Manager. ~~Reference Bid Package 221 Surveying Scope of Work for details regarding CM provided layout, control points, bench marks, etc.~~ Permanent site and building control to be established by the Construction Manager. Permanent building control may be located on adjacent properties. Field measurements are the responsibility of this subcontractor.

U. Subcontractor shall proceed with the utmost caution when excavating, grading, or constructing in the vicinity of existing utilities. The subcontractor shall also notify all public/private utility companies and contractor prior to beginning any excavation work. Subcontractor shall be responsible for locating all public and private utilities in accordance with local requirements and state and federal laws and guidelines and the "Underground Facility Damage & Safety Act". Each subcontractor doing excavation work is responsible for developing an excavation plan prior to commencing excavation. Each subcontractor must provide and maintain proper shoring and bracing for existing underground utilities, sewers and building foundations, encountered during his excavation work, to protect them from collapse or other type of damage, until such time as they are to be removed, incorporated into the new work, or can be properly backfilled upon completion of new work. The subcontractor shall be responsible for the associated cost of any utility interruption and repair due to his excavation. The subcontractor shall immediately restore the service of any utility disrupted due to excavation or other contractor action whatever the circumstance. The subcontractor is required to hand excavate to expose all known or located underground utilities prior to using backhoes, trenchers or motorized excavation equipment.

V. All fastening devices, adhesives, shims, supports, and braces required for a complete installation of the materials and equipment supplied under this Contract shall be provided by this subcontractor. Pipe sleeves and inserts must be placed and checked prior to concrete pours – subcontractor will monitor during concrete pour to insure accuracy.

W. Subcontractor is responsible for notifying all Agencies and Inspectors as required. All cost for additional Inspection Services incurred due to lack of coordination by subcontractor causing unnecessary visits by the Inspection Agency shall be paid by the subcontractor. Subcontractor will contact the inspector and coordinate an inspection schedule with the governing authority so as not to impede construction progress. **Permit** and **Inspection Fees** shall be obtained by the **Owner** (Building Permit/Site Plan Permit/NCDENR Permit) unless otherwise noted or stated elsewhere by the Construction Manager. All Work shall conform to the North Carolina Building Code and other State, local and national codes as are applicable.

Inspections, re-inspections, testing or retesting beyond that normally provided by the Construction Manager or Owner shall be the financial responsibility of the subcontractor requiring same.

X. In connection with its furnishing of the temporary facilities indicated, Construction Manager shall not be liable for conditions beyond the control of Construction Manager which may interrupt, delay or otherwise interfere with the availability of such facilities to Subcontractor. Unless otherwise expressly indicated, the temporary facilities furnished by the Construction Manager shall not be for the exclusive use of subcontractor, but shall be shared by others performing work on the Project. Construction Manager therefore reserves the exclusive right to schedule the use of any facilities in accordance with its determination as to the needs of the Project, and shall incur no liability as a result thereof.

Y. Construction Manager shall provide subcontractors with temporary portable sanitary facilities for the duration of the Project. Use of the permanent building water closets is strictly prohibited. Anyone using the permanent water closets shall be removed from the Project, and the subcontractors responsible for that person shall clean up the area at his expense.

Z. Temporary Water & Sewer – Temporary water service, including any permits, fees or connection costs, shall be provided to project site by the subcontractor so designated by the Construction Manager unless noted otherwise by the Construction Manager.

AA. Cold Weather Protection – Each subcontractor will provide adequate weather protection and heat in order to maintain a satisfactory work environment.

BB. Liquidated Damages for this project are **$500.00** as Substantial Completion Liquidated Damages for each consecutive calendar day beyond the date of established substantial completion and **$750.00** as Final Completion Liquidated Damages for each consecutive calendar day beyond the date of established final completion. In addition to the foregoing liquidated damages, the CM and Owner may recover utility charges as expressly set forth elsewhere in the Contract documents. The amount of liquidated damages set forth herein above shall not include additional legal or design professional costs that may result from the contractor default. If such legal or design professional costs are incurred by the owner, the contractor shall be liable to the owner for those costs in addition to the liquidated damages amount set forth herein above.

CC. All agents and workers of the contractor and its subcontractors shall wear identification badges at all times they are on the owner's property. The identification badges shall at a minimum display the company name, telephone number, employee name and a picture of the employee.

ADMINISTRATIVE REQUIREMENTS

A. The subcontractor shall obtain and submit any required Permits not specifically noted under Special Provisions, Item W that may be required to complete scope of work (unless noted otherwise by the Construction Manager), Insurance Certificates and Payment and Performance Bond Documents (as applicable) prior to starting Work on the project.

B. This subcontractor shall submit a complete listing of the Subcontractor's Tier I, II or III subcontractors, material and/or labor suppliers **two (2) weeks** after receipt of a contract. The list shall include the firm's name, contact person, phone numbers, Subcontract or material purchase date along with the anticipated delivery dates and material shipping points. In case emergency contact is required, the subcontractor shall furnish the Owner and Construction Manager with the names, pager numbers, and telephone numbers (day and night) of the Subcontractor's project manager and superintendent. The numbers shall remain current or be updated as required for the duration of the project. The subcontractor shall be responsible for the security and safety of the project. The Owner must approve any "watchman" service instituted by the subcontractor.

C. A **Schedule of Values** is required to be submitted with each Pay Application on an AIA G703 continuation sheet. All subcontractors shall include the following line items in their schedule of values. A final list of items to be included in the schedule of values will be provided by the Construction Manager. Required percentages will be provided per addenda if applicable.

FORM OF SUBMITTAL FOR SCHEDULE OF VALUES:

1. Mobilization
2. Insurance
3. Bond (if applicable)
4. Submittals
5. Project Meeting Attendance
6. Project Safety

7. Schedule/Milestone Date Adherence
8. Timely Paperwork Processing
9. Daily Clean-up
10. Punchlist
11. Project Closeout
12. Cost of Work Breakdown by Labor & Material for each respective Area

PREPARING SCHEDULE OF VALUES:

Itemize separate line item cost for work required. Round off figures to the nearest dollar. Make sum of total costs of all items listed in schedule equal to total contract sum. Itemize separate line item costs for labor and materials. After review by Construction Manager, Designer and Owner, revise and resubmit Schedule of Values as required and as directed by CM.

D. When subcontractor proposes to sub-let portions of its Work, approval of the Construction Manager is required. Subcontractor shall remain responsible for all it's Work, regardless of whether it is performed by Subcontractor or its subcontractors. Subcontractor shall be responsible for assuring the sub-subcontractor maintains adequate insurance and safety programs.

E. If approval is granted to allow portions of the subcontractor's Work to be sub-let, the second/third tier contractor will adhere to all rules and requirements of subcontractor. Supervision, in the employ of the Tier I Subcontractor, shall be present at all times work is performed under that Subcontract.

F. CM will provide digital Contract Documents upon request by Subcontractor.

G. Daily Work Reports are required to be turned in daily to the Construction Manager by 12:00 P. M. of the following work day. Daily reports shall include total number of crew members, weather description, work description, safety, total man-hours worked along with equipment hours utilized. Reports may be submitted electronically but will be subject to same submittal requirements and timeframe. Contact Construction Manager for required and final details for submittal requirements.

H. Subcontractor shall maintain on the jobsite, one set of drawings on which to record, on a day-to-day basis, a record of work in place that is at variance with the contract documents. Such variations shall be fully noted on final as-built drawings. Final as-built documents will be submitted in both hard copy and electronic form.

I. For the purpose of determining extent of delay attributable to unusual weather, subcontractors shall submit their requests in accordance with the requirements of the Owner Contract. Rain days to be included in subcontractor's base bid contract utilizing the national average for the jobsite location and actual rainfall as recorded at the local airport or per Contract Documents as required.

J. Payment for stored materials that are stored within the project limits is on a case-by-case basis and requires written consent of the Owner and Construction Manager. Proof of insurance and a bill of sale must be provided.

K. All Insurance companies providing coverage to subcontractors or sub-subcontractors shall be a company or companies licensed to do business in North Carolina.

INTENT AND EXECUTION:

A. Intent and Execution of Documents

Contract Documents are Complementary.

The Contract Documents are intended to be read as a whole, and any Work required by one part and not mentioned in another (e.g., item shown in drawing and not mentioned in the specifications, or mentioned

in the specifications and not shown in drawing), shall be executed to the same extent as though required by all. The addition, omission or incorrect placement of a word or character in one part of the Subcontract shall not change the intent of the Subcontract as a whole, and shall not constitute the basis for a claim by the subcontractor for an increase in the Subcontract Amount or an extension of time within which to perform and complete the Work. In the event of a conflict between one or more provisions of the Contract Documents, the provision imposing the more demanding term, condition, duty or standard of performance, or the greater limitation on the nature and type of relief or damages allowed to subcontractor, shall control. A conflict exists in the Contract Documents when the same subject matter is addressed by two or more provisions of the Contract Documents in a manner that cannot be reconciled to give effect to all provisions. In the various parts of the Contract Documents where reference is made to applicable codes and standards, the Work shall, except as otherwise specified, conform to the latest issue of the referenced code or standard available at the time the Work is performed.

All the work shall conform to the contract documents. Where more detail information is needed, or when an interpretation of the contract documents is required, the subcontractor shall refer the matter in writing to the Construction Manager prior to proceeding with the work. The designer shall furnish the sub, through the Construction Manager, an interpretation in writing. If the subcontractor discovers errors, inconsistencies, discrepancies or omissions in the contract documents, the subcontractor shall inform the Construction Manager of such condition prior to proceeding with the work.

If prior to bid, the subcontractor realizes errors, inconsistencies, discrepancies or omissions in the contract documents that is not resolved by the order of precedence, the subcontractor shall request clarifications from the Construction Manager and shall include in the bid price all work required to deliver a complete, fully operational and ready to use system. **If inconsistencies, discrepancies or contradictions in the contract documents are discovered after the bid that cannot be resolved by the order of precedence then the subcontractor shall be deemed by submittal of his bid, to have bid the most costly as to labor, materials, duration, sequence and method of construction to provide the work**.

All manufactured items or fabricated assemblies shall carry an Underwriters Laboratories approval or third party testing-listing-labeling that is in conformance with NC Building Codes and meets the full approval of the City/County Inspectors responsible for this project.

B. Clarification and Detail Drawings:

If the subcontractor realizes errors, inconsistencies, discrepancies or omissions in the contract documents, the subcontractor shall inform the Construction Manager of such condition prior of proceeding with the Work. The designer shall furnish the subcontractor, through the Construction Manager, written clarification in a reasonable time, so as not to impact the progress of the work. Clarifications for inconsistencies, discrepancies, or contradictions shall not be a basis for deductive or additive change orders.

C. Clarification of Change Orders:

The change order cost breakdown shall include: Labor ($/hr) and material ($ ea, lf, sq./ft., etc.) quantities, unit prices (as listed in the contract documents) including such breakdowns for work performed by the subcontractors and the cost extensions for the labor and material quantities. The cost extensions shall be added into a labor and material subtotal. The labor shall then show a percentage for labor burden, the materials shall show the applicable state sales tax. These subtotals shall then be shown as a total for labor and material costs. The labor and material cost shall then show the allowed mark-up (Maximum combined **15%** O & P for ADDS and no less than **15%** O & P for CREDITS), and a final total. Subcontractor quotes shall be presented in the same format on the subcontractor's letterhead. Failure by the subcontractor to provide the information requested in this paragraph shall result in rejection of the change order by the designer and a request for resubmittal. Delay in the processing of the change order due to lack of proper submittal by the subcontractor in accordance with this paragraph, or due to errors in the change order calculations shall not constitute grounds for a time extension or basis for a claim. Subcontractor responsible for submitting all changes on required change proposal form with all required auditable backup documentation. Reference change proposal form(s) in Section Seven

of the Project Bid Manual.

D. Clarification of Final Payment:
Final Payment to the subcontractor shall also be contingent on the furnishing of satisfactory evidence to the Construction Manager that there are no claims, obligations, and liens outstanding or unsatisfied for labor, services, materials, equipment, taxes or other items performed, furnished or incurred in connection with the Work.

E. The period of Warranty and Guarantee as detailed in the Owner Contract is for a period of **twelve (12)** months following the date of substantial completion of the work and beneficial occupancy, whereby the Subcontractor unconditionally warrants and guarantees all materials and workmanship against patent defects arising from faulty materials, faulty workmanship or negligence for a period of **twelve (12)** months following the date of substantial completion of the Work and beneficial occupancy and shall replace such defective materials or workmanship without cost to the CM or Owner.

Unless otherwise noted or required, GS 143-134.2 shall apply to any claims filed by the Subcontractor involving the Owner.

F. Except with the Owner's prior approval, payments allocated to Subcontractors shall be subject to **retention of five (5%)**. When the project is fifty (50%) percent complete, the owner, with written consent of the surety, shall not retain any further retainage from periodic payments due the contractor if the contractor continues to perform satisfactorily and any nonconforming work identified in writing prior to that time by the architect, engineer, or owner has been corrected by the contractor and accepted by the architect, engineer, or owner. If the owner determines the contractor's performance is unsatisfactory, the owner may reinstate retainage for each subsequent periodic payment application as authorized in this subsection up to the maximum amount of five percent (5%). The project shall be deemed fifty percent (50%) complete when the contractor's gross project invoices, excluding the value of materials stored off-site, equal or exceed fifty percent (50%) of value of the contract, except the value of stored materials stored on-site shall not exceed twenty percent (20%) of the contractor's gross project invoices for the purpose of determining whether the project is fifty percent (50%) complete. A subcontract on a contract governed by this section may include a provision for the retainage on periodic payments made by the prime contractor to the subcontractor. However, the percentage of the payment retained shall be paid to the subcontractor under the same terms and conditions as provided in the General Assembly of NC Session Law 2007-365, and shall not exceed the percentage of retainage on payments made by the owner to the prime contractor. Also, any percentage of retainage on payments made by the prime contractor to the subcontractor that exceeds the percentage of retainage on payments made by the owner to the prime contractor shall be subject to interest paid by the prime contractor to the subcontractor at the rate of one percent (1%) per month or fraction thereof. Reference General Assembly of NC Session Law 2007-365 for more information if needed as it relates to this section.

G. Project Closeout Requirements
- Complete construction and provide start-up testing of equipment
- Conduct a final walk-through inspection to ensure completion of punch list items
- Provide on-site instruction and training as required
- Remove all temporary facilities and utilities
- Repair or replace property damaged by construction activities or temporary facilities
- Complete final cleaning activities
- Submit as-built drawings and other record documents in required quantity, in addition to hard copies, all closeout documents will be required to be submitted in a to be specified electronic format.
- Store spare parts and products and submit list of items stored
- Provide sets in the required quantity of O&M data, spare parts lists, warranties, guarantees, instruction manuals, users manuals, etc. for equipment provided and as required by the Contract Documents
- Submit a final billing with final release of lien and other required paperwork for processing
- Submit a list that includes name, address, and telephone number of each entity installing product or equipment. Include local representatives and service organizations most convenient to the Project

site.
- MWBE Closeout documents and reports

H. As-Built Drawing Requirements
- The initials of the person making the entry and the date change shall be recorded for each revision
- All construction changes authorized by change order and not incorporated into the Contract Documents shall be recorded
- Dimensions of buried or concealed Work not originally shown on the drawings shall be indicated.
- Drawings shall be protected in a secure fireproof housing

I. Project Punch List Requirements
- Subcontractor shall resolve all CM, A/E, Owner punch list items as required and as a condition of payment.

E-VERIFY GUIDELINES

A. Applicable Laws. This Contract and the relationship of the parties shall be governed by the laws of the state of North Carolina. Contractor shall comply with all applicable laws and regulations in providing services under this Contract. Contractor shall not employ any individuals to provide services to the Owner who are not authorized by federal law to work in the United States. The Contractor represents that it is aware of and in compliance with the Immigration Reform and Control Act and North Carolina law (Article 2 of Chapter 64 of the North Carolina General Statutes) requiring use of the E-Verify system. The Contractor further warrants that it will use the E-Verify system to verify employment eligibility of all its employees throughout the term of this Contract, and that it will remain in compliance with all I-9 requirements throughout the term of this Contract. The Contractor shall also ensure that any subcontractors use the E-Verify system at all times while providing subcontracted services in connection with this Contract. Contractor is responsible for providing affordable health care coverage to all of its full-time employees providing services to the school system. The definitions of "affordable coverage" and "full-time employee" are governed by the Affordable Care Act and accompanying IRS and Treasury Department regulations.

B. Lunsford Act/ Criminal Background Checks. Contractor also acknowledges that G.S. § 14-208.18 prohibits anyone required to register as a sex offender under Article 27A of Chapter 14 of the General Statutes from knowingly being on the premises of any school. The Contractor shall conduct or arrange to have conducted, at its own expense, sexual offender registry checks on each of its employees, agents, ownership personnel, or contractors ("contractual personnel") who will engage in any service on or delivery of goods to school system property or at a school-system sponsored event, except checks shall not be required for individuals who are solely delivering or picking up equipment, materials, or supplies at: (1) the administrative office or loading dock of a school; (2) non-school sites; (3) schools closed for renovation; or (4) school construction sites. The checks shall include at a minimum check of the State Sex Offender and Public Protection Registration Program, the State Sexually Violent Predator Registration Program, and the National Sex Offender Registry ("the Registries"). For the Contractor's convenience only, all of the required registry checks may be completed at no cost by accessing the United States Department of Justice Sex Offender Public Website at http://www.nsopw.gov/. The Contractor shall provide certification on the Sexual Offender Registry Check Certification Form that the registry checks were conducted on each of its contractual personnel providing services or delivering goods under this Agreement prior to the commencement of such services or the delivery of such goods. The Contractor shall conduct a current initial check of the registries (a check done more than 30 days prior to the date of this Agreement shall not satisfy this contractual obligation). In addition, the Contractor agrees to conduct the registry checks and provide a supplemental certification form before any additional contractual personnel are used to deliver goods or provide services pursuant to this Agreement. The Contractor further agrees to conduct annual registry checks of all contractual personnel and provide annual certifications at each anniversary date of this Agreement. The Contractor shall not assign any individual to deliver goods or provide services pursuant to this Agreement if said individual appears on any of the listed registries. The Contractor

agrees that it will maintain all records and documents necessary to demonstrate that it has conducted a thorough check of the registries as to each contractual personnel, and agrees to provide such records and documents to the Owner upon request. The Contractor specifically acknowledges that the Owner retains the right to audit these records to ensure compliance with this section at any time in the Owner's sole discretion. Failure to comply with the terms of this provision shall be deemed a material breach of the Agreement. In addition, the Owner may conduct additional criminal records checks at the Owner's expense. If the Owner exercises this right to conduct additional criminal records checks, the Contractor agrees to provide within seven (7) days of request the full name, date of birth, state of residency for the past ten years, and any additional information requested by the Owner for all contractual personnel who may deliver goods or perform services under this Agreement. The Contractor further agrees that it has an ongoing obligation to provide the Owner with the name of any new contractual personnel who may deliver goods or provide services under the Agreement. The Owner reserves the right to prohibit any contractual personnel of the Contractor from delivering goods or providing services under this Agreement if the Owner determines, in its sole discretion, that such contractual personnel may pose a threat to the safety or well-being of students, school personnel or others.

END OF SECTION

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2011

SESSION LAW 2012-175
HOUSE BILL 1052

AN ACT TO MAKE VARIOUS AMENDMENTS TO NORTH CAROLINA'S MECHANICS LIEN AND PAYMENT BOND LAWS, AS RECOMMENDED BY THE LEGISLATIVE RESEARCH COMMISSION'S MECHANICS LIENS ON REAL PROPERTY COMMITTEE.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 44A-7 reads as rewritten:

"**§ 44A-7. Definitions.**

Unless the context otherwise ~~requires in this Article:~~requires, the following definitions apply in this Article:

(1) Contractor. – A person who contracts with an owner to improve real property.

(2) First tier subcontractor. – A person who contracts with a contractor to improve real property.

~~(1)~~(3) ~~"Improve" means to~~ Improve. – To build, effect, alter, repair, or demolish any improvement upon, connected with, or on or beneath the surface of any real property, or to excavate, clear, grade, fill or landscape any real property, or to construct driveways and private roadways, or to furnish materials, including trees and shrubbery, for any of such purposes, or to perform any labor upon such improvements, and shall also mean and include any design or other professional or skilled services furnished by architects, engineers, land surveyors and landscape architects registered under Chapter 83A, 89A or 89C of the General Statutes, and rental of equipment directly utilized on the real property in making the improvement.

~~(2)~~(4) ~~"Improvement" means all~~ Improvement. – All or any part of any building, structure, erection, alteration, demolition, excavation, clearing, grading, filling, or landscaping, including trees and shrubbery, driveways, and private roadways, on real property.

(5) Obligor. – An owner, contractor, or subcontractor in any tier who owes money to another as a result of the other's partial or total performance of a contract to improve real property.

~~(3)~~(6) ~~An "owner" is a~~ Owner. – A person who has an interest in the real property improved and for whom an improvement is made and who ordered the improvement to be made. "Owner" includes successors in interest of the owner and agents of the owner acting within their authority.

~~(4)~~(7) ~~"Real property" means the~~ Real property. – The real estate that is improved, including lands, leaseholds, tenements and hereditaments, and improvements placed thereon.

(8) Second tier subcontractor. – A person who contracts with a first tier subcontractor to improve real property.

(9) Third tier subcontractor. – A person who contracts with a second tier subcontractor to improve real property."

SECTION 2. G.S. 44A-11 reads as rewritten:

"**§ 44A-11. Perfecting claim of lien on real property.**

(a) Perfection. – A claim of lien on real property granted by this Article shall be perfected as of the time provided in G.S. 44A-10 upon the ~~filing of the claim of lien on real~~

~~property under G.S. 44A-12 and may be enforced pursuant to G.S. 44A-13.~~occurrence of all of the following:

(1) Service of a copy of the claim of lien on real property upon the record owner of the real property claimed to be subject to the claim of lien and, if the claim of lien on real property is being asserted pursuant to G.S. 44A-23, also upon the contractor through which subrogation is being asserted.

(2) Filing of the claim of lien on real property under G.S. 44A-12.

(b) Method of Service. – Service of the claim of lien on real property pursuant to subsection (a) of this section shall not require proof of actual receipt by the listed recipient and shall be complete upon the occurrence of any of the following:

(1) Personal delivery of a copy of the claim of lien on real property upon the recipient.

(2) Deposit of a copy of the claim of lien on real property in a postpaid, properly addressed wrapper in either of the following:

a. A post office or official depository under the exclusive care and custody of the United States Postal Service.

b. An authorized depository under the exclusive care and custody of a designated delivery service authorized pursuant to 26 U.S.C. § 7502(f)(2).

(c) Service Address. – For purposes of this section, a wrapper addressed to a party required to be served under subdivision (1) of subsection (a) of this section shall be conclusively deemed properly addressed if it uses any of the following addresses:

(1) The address for the party to be served listed on the permit issued for the improvement.

(2) The address for the party to be served listed with the tax rolls for any county in North Carolina.

(3) The address of the registered agent for the party to be served listed with the North Carolina Secretary of State's office."

SECTION 3. G.S. 44A-12(c) reads as rewritten:

"**§ 44A-12. Filing claim of lien on real property.**

…

(c) Contents of Claim of Lien on Real Property to Be Filed. – All claims of lien on real property must be filed using a form substantially as follows:

CLAIM OF LIEN ON REAL PROPERTY

(1) Name and address of the person claiming the claim of lien on real property:

(2) Name and address of the record owner of the real property claimed to be subject to the claim of lien on real property at the time the claim of lien on real property is ~~filed:~~filed and, if the claim of lien on real property is being asserted pursuant to G.S. 44A-23, the name of the contractor through which subrogation is being asserted:

(3) Description of the real property upon which the claim of lien on real property is claimed: (Street address, tax lot and block number, reference to recorded instrument, or any other description of real property is sufficient, whether or not it is specific, if it reasonably identifies what is described.)

(4) Name and address of the person with whom the claimant contracted for the furnishing of labor or materials:

(5) Date upon which labor or materials were first furnished upon said property by the claimant:

(5a) Date upon which labor or materials were last furnished upon said property by the claimant:

(6) General description of the labor performed or materials furnished and the amount claimed therefor:

I hereby certify that I have served the parties listed in (2) above in accordance with the requirements of G.S. 44A-11.

_____

Lien Claimant

Filed this ____ day of ____, ____

Clerk of Superior Court

A general description of the labor performed or materials furnished is sufficient. It is not necessary for lien claimant to file an itemized list of materials or a detailed statement of labor performed."

SECTION 4. G.S. 44A-13 is amended by adding new subsections to read:

"**§ 44A-13. Action to enforce claim of lien on real property.**

…

(d) Former Owner Not a Necessary Party to Action. – In an action brought under this section, a former owner of the improved property at the time the lien arose, who holds no ownership interest in the property at the time the action is commenced and against whom the plaintiff seeks no relief, is not a necessary party to the action.

(e) Subsequent Purchaser and Lender Not Necessary or Proper Parties to Action Filed After Claim of Lien Is Discharged. – If a claim of lien on real property filed under this Article is discharged pursuant to G.S. 44A-16(a)(5) or G.S. 44A-16(a)(6) prior to the filing of an action to enforce the claim of lien under this section, then neither a subsequent purchaser of the real property upon which the lien is claimed nor the subsequent purchaser's lender shall be a necessary or proper party to the action. However, nothing herein precludes the lien claimant from asserting any claims against any party that are separate and distinct from enforcement of the lien.

(f) Subsequent Purchaser and Lender No Longer Necessary or Proper Parties Upon Discharge of Claim of Lien After Action Is Filed. – If an action to enforce a lien under this section is commenced before the claim of lien is discharged pursuant to G.S. 44A-16(a)(5) or G.S. 44A-16(a)(6), a subsequent purchaser of the real property upon which the lien is claimed and the subsequent purchaser's lender shall cease to be a necessary or proper party to the action, and any claim for lien enforcement asserted against the subsequent purchaser of the real property upon which the lien is claimed or the subsequent purchaser's lender shall be dismissed upon motion of any party upon a showing that the claim of lien was discharged pursuant to G.S. 44A-16. However, nothing herein precludes the lien claimant from continuing to pursue any claims against any party that are separate and distinct from enforcement of the lien.

(g) Bonds Prohibited From Requiring Subsequent Purchaser or Lender to Remain Parties to Action After Discharge of Claim of Lien. – The fact that a subsequent purchaser of the real property upon which the lien is claimed or the subsequent purchaser's lender is not a party to an action to enforce a claim of lien on real property subsequent to discharge of that claim of lien by the contractor under G.S. 44A-16 shall not invalidate the claim of lien under this Chapter, nor shall it invalidate any bond filed under G.S. 44A-16 to discharge the claim of lien. Further, a bond filed under G.S. 44A-16(a)(6) shall not require that a subsequent purchaser of the real property upon which the lien is claimed or the subsequent purchaser's lender remain a party to an action to enforce a claim of lien after the claim of lien has been discharged pursuant to G.S. 44A-16.

(h) Definition of "Subsequent Purchaser." – For purposes of this section, a "subsequent purchaser" means a party whose record interest is protected under G.S. 47-18, including any beneficiary of a deed of trust or mortgagee of that party, the priority of whose interest is protected under the provisions of G.S. 47-20, and who was not the owner of the real property at the time of the improvements giving rise to the lien claim as defined in G.S. 44A-7(6)."

SECTION 5. G.S. 44A-17 is repealed.

SECTION 6. G.S. 44A-18 reads as rewritten:

"**§ 44A-18. Grant of lien upon funds; subrogation; perfection.**

~~Upon compliance with this Article:~~

~~(1)~~(a) A first tier subcontractor who furnished labor, materials, or rental equipment at the site of the improvement shall ~~be entitled to~~ have a lien upon funds that are owed to the contractor with whom the first tier subcontractor dealt and that arise out of the improvement on which the first tier subcontractor worked or furnished materials.

~~(2)~~(b) A second tier subcontractor who furnished labor, materials, or rental equipment at the site of the improvement shall ~~be entitled to~~have a lien upon funds that are owed to the first tier subcontractor with whom the second tier subcontractor dealt and that arise out of the improvement on which the second tier subcontractor worked or furnished materials. A second tier subcontractor, to the extent of the second tier subcontractor's lien provided in this subdivision, shall also be ~~entitled to be~~ subrogated to the lien upon funds of the first tier

subcontractor with whom the second tier contractor dealt provided for in subdivision (1) of this section and shall ~~be entitled to~~ perfect it by service of the notice of claim of lien upon funds to the extent of the claim.

~~(3)~~(c) A third tier subcontractor who furnished labor, materials, or rental equipment at the site of the improvement shall ~~be entitled to~~have a lien upon funds that are owed to the second tier subcontractor with whom the third tier subcontractor dealt and that arise out of the improvement on which the third tier subcontractor worked or furnished materials. A third tier subcontractor, to the extent of the third tier subcontractor's lien upon funds provided in this subdivision, shall also ~~be entitled to~~ be subrogated to the lien upon funds of the second tier subcontractor with whom the third tier contractor dealt and to the lien upon funds of the first tier subcontractor with whom the second tier subcontractor dealt to the extent that the second tier subcontractor is ~~entitled to be~~ subrogated thereto, and in either case shall ~~be entitled to~~ perfect ~~the same~~it by service of the notice of claim of lien upon funds to the extent of the claim.

~~(4)~~(d) Subcontractors more remote than the third tier who furnished labor, materials, or rental equipment at the site of the improvement shall ~~be entitled to~~have a lien upon funds that are owed to the person with whom they dealt and that arise out of the improvement on which they furnished labor, materials, or rental equipment, but such remote tier subcontractor shall not be entitled to subrogation to the rights of other persons.

~~(5)~~(e) The liens upon funds granted under this section shall secure amounts earned by the lien claimant as a result of having furnished labor, materials, or rental equipment at the site of the improvement under the contract to improve real property, including interest at the legal rate provided in G.S. 24-5, whether or not such amounts are due and whether or not performance or delivery is complete. In the event insufficient funds are retained to satisfy all lien claimants, subcontractor lien claimants may recover the interest due under this subdivision on a pro rata basis, but in no event shall interest due under this subdivision increase the liability of the obligor under G.S. 44A-20.

~~(6)~~(f) A lien upon funds granted under this section arises, attaches, and is ~~perfected~~effective immediately upon the first furnishing of labor, materials, or rental equipment at the site of the improvement by a subcontractor. Any lien upon funds granted under this section is perfected upon the giving of notice of claim of lien upon funds in writing to the obligor as provided in ~~G.S. 44A-19 and shall be effective upon the obligor's receipt of the notice. The subrogation rights of a first, second, or third tier subcontractor to the claim of lien on real property of the contractor created by Part 1 of Article 2 of this Chapter are perfected as provided in G.S. 44A-23.~~ G.S. 44A-19.

(g) Until a lien claimant gives notice of a claim of lien upon funds in writing to the obligor as provided in G.S. 44A-19, any owner, contractor, or subcontractor against whose interest the lien upon funds is claimed may make, receive, use, or collect payments thereon and may use such proceeds in the ordinary course of its business."

SECTION 7. G.S. 44A-19 reads as rewritten:

"**§ 44A-19. Notice of claim of lien upon funds.**

(a) Notice of a claim of lien upon funds shall set forth all of the following information:

(1) The name and address of the person claiming the lien upon funds.

(2) A general description of the real property improved.

(3) The name and address of the person with whom the lien claimant contracted to improve real property.

(4) The name and address of each person against or through whom subrogation rights are claimed.

(5) A general description of the contract and the person against whose interest the lien upon funds is claimed.

(6) The amount of the lien upon funds claimed by the lien claimant under the contract.

(b) All notices of claims of liens upon funds by first, second, or third tier subcontractors must be given using a form substantially as follows:

NOTICE OF CLAIM OF LIEN UPON FUNDS BY FIRST, SECOND, OR THIRD TIER SUBCONTRACTOR

To:

1._____, owner of property involved.

(Name and address)

2._____, ~~general~~ contractor.

(Name and address)
3._____, first tier subcontractor against or through
(Name and address) whom subrogation is claimed, if any.
4._____, second tier subcontractor against or through
(Name and address) whom subrogation is claimed, if any.
General description of real property ~~where~~on which labor performed or material furnished:
_____
_____
_____
General description of undersigned lien claimant's contract including the names of the parties thereto:
_____
_____
The amount of lien upon funds claimed pursuant to the above described contract:
$_____
The undersigned lien claimant gives this notice of claim of lien upon funds pursuant to North Carolina law and claims all rights of subrogation to which he is entitled under Part 2 of Article 2 of Chapter 44A of the General Statutes of North Carolina.
Dated_____
_____, Lien Claimant
_____
(Address)

(c) All notices of claims of liens upon funds by subcontractors more remote than the third tier must be given using a form substantially as follows:

NOTICE OF CLAIM OF LIEN UPON FUNDS BY SUBCONTRACTOR MORE REMOTE THAN THE THIRD TIER

To:
_____, person holding funds against which lien upon funds is claimed.
(Name and Address)
General description of real property ~~where~~on which labor performed or material furnished:_____
_____
_____
General description of undersigned lien claimant's contract including the names of the parties thereto:
_____
_____
The amount of lien upon funds claimed pursuant to the above described contract:
$ _____
The undersigned lien claimant gives this notice of claim of lien upon funds pursuant to North Carolina law and claims all rights to which he or she is entitled under Part 2 of Article 2 of Chapter 44A of the General Statutes of North Carolina.
Dated:_____
_____, Lien Claimant
(Address)

(d) Notices of claims of lien upon funds under this section shall be served upon the obligor by personal delivery or in any manner authorized by Rule 4 of the North Carolina Rules of Civil Procedure. A copy of the notice of claim of lien upon funds shall be attached to any claim of lien on real property filed pursuant to ~~G.S. 44A-20(d) or G.S. 44A-23.~~G.S. 44A-20(d).

(e) Notices of claims of lien upon funds shall not be filed with the clerk of superior court and shall not be indexed, docketed, or recorded in any way as to affect title to any real property, except a notice of a claim of lien upon funds may be filed with the clerk of superior court under either of the following circumstances:

(1) When the notice of claim of lien upon funds is attached to a claim of lien on real property filed pursuant to ~~G.S. 44A-20(d) or G.S. 44A-23.~~G.S. 44A-20(d).

(2) When the notice of claim of lien upon funds is filed by the obligor for the purpose of discharging the claim of lien upon funds in accordance with G.S. 44A-20(e).

(f) Filing a notice of claim of lien upon funds pursuant to subsection (e) of this section is not a violation of G.S. 44A-12.1."

SECTION 8. G.S. 44A-20 reads as rewritten:

"**§ 44A-20. Duties and liability of obligor.**

(a) Upon receipt of the notice of claim of lien upon funds provided for in this Article, the obligor shall be under a duty to retain any funds subject to the lien or liens upon funds under this Article up to the total amount of such liens upon funds as to which notices of claims of lien upon funds have been received.

(b) If, after the receipt of the notice of claim of lien upon funds to the obligor, the obligor makes further payments to a contractor or subcontractor against whose interest the lien or liens upon funds are claimed, the lien upon funds shall continue upon the funds in the hands of the contractor or subcontractor who received the payment, and in addition the obligor shall be personally liable to the person or persons entitled to liens upon funds up to the amount of such wrongful payments, not exceeding the total claims with respect to which the notice of claim of lien upon funds was received prior to payment.

(c) If an obligor makes a payment after receipt of notice of claim of lien on funds and incurs personal liability under subsection (b) of this section, the obligor shall be entitled to reimbursement and indemnification from the party receiving such payment.

(d) If the obligor is an owner of the property being improved, the lien claimant shall be entitled to a claim of lien upon real property upon the interest of the obligor in the real property to the extent of the owner's personal liability under subsection (b) of this section, which claim of lien on real property shall be enforced only in the manner set forth in G.S. 44A-7 through G.S. 44A-16 and which claim of lien on real property shall be entitled to the same priorities and subject to the same filing requirements and periods of limitation applicable to the contractor. The claim of lien on real property is perfected as of the time set forth in G.S. 44A-10 upon the filing of the claim of lien on real property pursuant to G.S. 44A-12. A lien waiver signed by the contractor prior to the commencement of an action to enforce a perfected claim of lien on real property granted under G.S. 44A-23 waives the subcontractor's right to enforce the contractor's claim of lien on real property, but does not affect the subcontractor's right to a claim of lien on funds or the subcontractor's right to a claim of lien on real property allowed under this subsection. The claim of lien on real property as provided under this subsection shall be in the form set out in G.S. 44A-12(c) and shall contain, in addition, a copy of the notice of claim of lien upon funds given pursuant to G.S. 44A-19 as an exhibit together with proof of service thereof by affidavit, and shall state the grounds the lien claimant has to believe that the obligor is personally liable for the debt under subsection (b) of this section.

(e) A notice of claim of lien upon funds under G.S. 44A-19 may be filed by the obligor with the clerk of superior court in each county where the real property upon which the filed notice of claim of lien upon funds is located for the purpose of discharging the notice of claim of lien upon funds by any of the methods described in G.S. 44A-16.

(f) A bond deposited under this section to discharge a filed notice of claim of lien upon funds shall be effective to discharge any claim of lien on real property filed by the same lien claimant pursuant to subsection (d) of this section or G.S. 44A-23 and shall further be effective to discharge any notices of claims of lien upon funds served by lower tier subcontractors or any claims of lien on real property filed by lower tier subcontractors pursuant to subsection (d) of this section or G.S. 44A-23 claiming through or against the contractor or higher tier subcontractors up to the amount of the bond."

SECTION 9. G.S. 44A-23 reads as rewritten:

"**§ 44A-23. Contractor's claim of lien on real property; perfection of subrogation rights of subcontractor.**

(a) First tier subcontractor. – A first tier ~~subcontractor, who gives notice of claim of lien upon funds as provided in this Article,~~subcontractor may, to the extent of ~~this~~ its claim, enforce the claim of lien on real property of the contractor created by Part 1 of this Article. The manner of such enforcement shall be as provided by G.S. 44A-7 through 44A-16. The claim of lien on real property is perfected as of the time set forth in G.S. 44A-10 upon filing of the claim of lien on real property pursuant to G.S. 44A-12. When completing the claim of lien on real property form, the subcontractor may use as the date upon which labor or materials were first or last furnished on the real property either the date of the first or last furnishing of labor or materials on the real property by the subcontractor making the claim or the date of the first or last furnishing of labor or materials on the real property by the contractor through which the claim

of lien on real property is being asserted. Upon the filing of the claim of lien on real ~~property, with the notice of claim of lien upon funds attached,~~ property and the commencement of the action, no action of the contractor shall be effective to prejudice the rights of the subcontractor without his written consent.

(b) Second or third tier subcontractor. –

(1) A second or third tier ~~subcontractor, who gives notice of claim of lien upon funds as provided in this Article,~~subcontractor may, to the extent of his claim, enforce the claim of lien on real property of the contractor created by Part 1 of Article 2 of the Chapter except when:

a. The owner or contractor, within 30 days following the date the ~~building~~ permit is issued for the improvement of the real property ~~involved,~~ involved or within 30 days following the date the contractor is awarded the contract for the improvement of the real property involved, whichever is later, posts on the property in a visible location adjacent to the posted ~~building permit~~ permit, if a permit is required, and files in the office of the clerk of superior court in each county wherein the real property to be improved is located, a completed and signed notice of contract form and the second or third tier subcontractor fails to serve upon the contractor a completed and signed notice of subcontract form by the same means of service as described in G.S. 44A-19(d); or

b. After the posting and filing of a signed notice of contract and the service upon the contractor of a signed notice of subcontract, the contractor serves upon the second or third tier subcontractor, within five days following each subsequent payment, by the same means of service as described in G.S. 44A-19(d), the written notice of payment setting forth the date of payment and the period for which payment is made as requested in the notice of subcontract form set forth herein.

(2) The form of the notice of contract to be so utilized under this section shall be substantially as follows and the fee for filing the same with the clerk of superior court shall be the same as charged for filing a claim of lien on real property:

"NOTICE OF CONTRACT

"(1) Name and address of the Contractor:

"(2) Name and address of the owner of the real property at the time this Notice of Contract is recorded:

"(3) General description of the real property to be improved (street address, tax map lot and block number, reference to recorded instrument, or any other description that reasonably identifies the real property):

"(4) Name and address of the person, firm or corporation filing this Notice of Contract:

"Dated:_____

_____

"Contractor

"Filed this the____day of _____, ____.

_____

Clerk of Superior Court"

(3) The form of the notice of subcontract to be so utilized under this section shall be substantially as follows:

"NOTICE OF SUBCONTRACT

"(1) Name and address of the subcontractor:

"(2) General description of the real property ~~where~~ on which the labor was performed or the material was furnished (street address, tax map lot and block number, reference to recorded instrument, or any description that reasonably identifies the real property):

"(3)

"(i) General description of the subcontractor's contract, including the names of the parties thereto:

"(ii) General description of the labor and material performed and furnished thereunder:

"(4) Request is hereby made by the undersigned subcontractor that he be notified in writing by the contractor of, and within five days following, each subsequent payment by the contractor to the first tier subcontractor for labor performed or material furnished at the improved real property within the above descriptions of such in paragraph (2) and subparagraph (3)(ii), respectively, the date payment was made and the period for which payment is made.
"Dated:_____

_____
Subcontractor"

(4) The manner of such enforcement shall be as provided by G.S. 44A-7 through G.S. 44A-16. The lien is perfected as of the time set forth in G.S. 44A-10 upon the filing of a claim of lien on real property pursuant to G.S. 44A-12. Upon the filing of the claim of lien on real ~~property, with the notice of claim of lien upon funds attached,~~ property and the commencement of the action, no action of the contractor shall be effective to prejudice the rights of the second or third tier subcontractor without his written consent.

(c) A lien waiver signed by the contractor prior to the commencement of an action to enforce a perfected claim of lien on real property granted under this section waives the subcontractor's right to enforce the contractor's claim of lien on real property, but does not affect the subcontractor's right to a claim of lien on funds or the subcontractor's right to a claim of lien on real property allowed under G.S. 44A-20(d)."

SECTION 10. G.S. 44A-24 reads as rewritten:

"**§ 44A-24. False statement a ~~misdemeanor.~~misdemeanor and grounds for disciplinary action against a licensed contractor or qualifying party.**

If any contractor or other person receiving payment from an obligor for an improvement to real property or from a purchaser for a conveyance of real property with improvements subject to this Article or to Article 3 of this Chapter shall knowingly furnish to such obligor, purchaser, or to a lender who obtains a security interest in said real property, or to a title insurance company insuring title to such real property, a false written statement of the sums due or claimed to be due for labor or material furnished at the site of improvements to such real property, then such contractor, subcontractor or other person shall be guilty of a Class 1 misdemeanor. Upon conviction and in the event the court shall grant any defendant a suspended sentence, the court may in its discretion include as a condition of such suspension a provision that the defendant shall reimburse the party who suffered loss on such conditions as the court shall determine are proper.

The elements of the offense herein stated are the furnishing of the false written statement with knowledge that it is false and the subsequent or simultaneous receipt of payment from an obligor or ~~purchaser, and in any~~ purchaser by the person signing the document, a person directing another to sign the document, or any person or entity for whom the document was signed. In any criminal prosecution hereunder it shall not be necessary for the State to prove that the obligor, purchaser, lender or title insurance company relied upon the false statement or that any person was injured thereby.

In addition to the criminal sanctions created by this section, conduct constituting the offense herein stated and causing actual harm to any person by any licensed contractor or qualifying party, as that term is used in Chapter 87 of the General Statutes, shall constitute deceit and misconduct subject to disciplinary action under Chapter 87 of the General Statutes, including revocation, suspension, or restriction of a license or the ability to act as a qualifying party for a license."

SECTION 11. G.S. 44A-27 reads as rewritten:

"**§ 44A-27. Actions on payment bonds; service of notice.**

(a) Subject to the provision of subsection (b) hereof, any claimant who has performed labor or furnished materials in the prosecution of the work required by any contract for which a payment bond has been given pursuant to the provisions of this Article, and who has not been paid in full therefor before the expiration of 90 days after the day on which the claimant performed the last such labor or furnished the last such materials for which he claims payment, may bring an action on such payment bond in his own name, to recover any amount due him for such labor or materials and may prosecute such action to final judgment and have execution on the judgment.

(b) Any claimant who has a direct contractual relationship with any subcontractor but has no contractual relationship, express or implied, with the contractor may bring an action on

the payment bond only if he has given written notice of claim on payment bond to the contractor within 120 days from the date on which the claimant performed the last of the labor or furnished the last of the materials for which he claims payment, stating with substantial accuracy the amount claimed and the name of the person for whom the work was performed or to whom the material was furnished. The contractor shall furnish a copy of the payment bond required by this Article within seven calendar days in response to a written request served by any claimant in accordance with the provisions of subsection (c) of this section. Subject to the exception set forth in subsection (e) of this section, unless the contractor has failed to satisfy its obligation to timely furnish a copy of the payment bond to a claimant upon proper request by the claimant, the claim of such a claimant shall not include labor or materials provided more than 75 days prior to the claimant's service, in accordance with subsections (c) and (d) of this section, of its written notice of public subcontract to the contractor.

(c) The ~~notice~~notices required by and any requests for copy of payment bond referenced by subsection ~~(b),~~(b) of this section, ~~above,~~ shall be served by ~~registered or~~ certified mail, or by signature confirmation as provided by the United States Postal Service, postage prepaid, in an envelope addressed to such contractor at any place where his office is regularly maintained for the transaction of business or to such agent identified in the contractor's project statement referenced in subdivision (1) of subsection (f) of this section or served in any manner provided by law for the service of summons.

(d) The form of the notice of public subcontract to be served pursuant to subsection (b) of this section shall be substantially as follows:

"NOTICE OF PUBLIC SUBCONTRACT

(1) Name and address of the subcontractor giving notice of public subcontract:
(2) General description of the real property on which the labor was or is to be performed or the material was or is to be furnished (street address, tax map lot and block number, reference to recorded instrument, or any description that reasonably identifies the real property):
(3) General description of the subcontractor's contract, including the names and addresses of the parties thereto:
(4) General description of the labor and material performed and furnished thereunder:

Dated: _____

_____
Subcontractor"

(e) Notwithstanding subsections (b), (c), and (d) of this section, the obligation to provide a notice of public subcontract shall not apply to claims of twenty thousand dollars ($20,000) or less and, for any claim exceeding twenty thousand dollars ($20,000), shall apply only to that portion of the claim in excess of twenty thousand dollars ($20,000).

(f) In connection with any construction contract for which a bond is required by G.S. 44A-26(a), all of the following shall apply:

(1) The contractor shall provide to each subcontractor that it engages to perform labor or furnish materials in the performance of the construction contract a contractor's project statement containing all of the following information:
  a. The name of the project.
  b. The physical address of the project.
  c. The name of the contracting body.
  d. The name of the contractor.
  e. The name, phone number, and mailing address of an agent authorized by the contractor to accept service of the requests for payment bond, the notice of public subcontract, and the notice of claim on payment bond referenced in subsection (b) of this section.
  f. The name and address of the principal place of business of the surety issuing the payment bond required by G.S. 44A-26(a) for the construction contract.
(2) Each subcontractor shall provide each subcontractor that it engages to perform labor or furnish materials in the performance of the construction contract a copy of the contractor's project statement.

(3) No agreement entered into between a contractor and a subcontractor or between a subcontractor and its subcontractor shall be enforceable against the lower tier party until the contractor's project statement has been provided to the lower tier party."

SECTION 12.(a) G.S. 44A-4(b) reads as rewritten:

"**§ 44A-4. Enforcement of lien by sale.**

…

(b) Notice and Hearings. –

(1) If the property upon which the lien is claimed is a motor vehicle that is required to be registered, the lienor following the expiration of the relevant time period provided by subsection (a) shall give notice to the Division of Motor Vehicles that a lien is asserted and sale is proposed and shall remit to the Division a fee of ten dollars ($10.00). The Division of Motor Vehicles shall issue notice by ~~registered or~~ certified mail, return receipt requested, to the person having legal title to the property, if reasonably ascertainable, to the person with whom the lienor dealt if different, and to each secured party and other person claiming an interest in the property who is actually known to the Division or who can be reasonably ascertained. The notice shall state that a lien has been asserted against specific property and shall identify the lienor, the date that the lien arose, the general nature of the services performed and materials used or sold for which the lien is asserted, the amount of the lien, and that the lienor intends to sell the property in satisfaction of the lien. The notice shall inform the recipient that the recipient has the right to a judicial hearing at which time a determination will be made as to the validity of the lien prior to a sale taking place. The notice shall further state that the recipient has a period of 10 days from the date of receipt in which to notify the Division by ~~registered or~~ certified mail, return receipt requested, that a hearing is desired and that if the recipient wishes to contest the sale of his property pursuant to such lien, the recipient should notify the Division that a hearing is desired. The notice shall state the required information in simplified terms and shall contain a form whereby the recipient may notify the Division that a hearing is desired by the return of such form to the Division. The Division shall notify the lienor whether such notice is timely received by the Division. In lieu of the notice by the lienor to the Division and the notices issued by the Division described above, the lienor may issue notice on a form approved by the Division pursuant to the notice requirements above. If notice is issued by the lienor, the recipient shall return the form requesting a hearing to the lienor, and not the Division, within 10 days from the date the recipient receives the notice if a judicial hearing is requested. If the ~~registered or~~ certified mail notice has been returned as undeliverable and the notice of a right to a judicial hearing has been given to the owner of the motor vehicle in accordance with G.S. 20-28.4, no further notice is required. Failure of the recipient to notify the Division or lienor, as specified in the notice, within 10 days of the receipt of such notice that a hearing is desired shall be deemed a waiver of the right to a hearing prior to the sale of the property against which the lien is asserted, and the lienor may proceed to enforce the lien by public or private sale as provided in this section and the Division shall transfer title to the property pursuant to such sale. If the Division or lienor, as specified in the notice, is notified within the 10-day period provided above that a hearing is desired prior to sale, the lien may be enforced by sale as provided in this section and the Division will transfer title only pursuant to the order of a court of competent jurisdiction.

If the ~~registered or~~ certified mail notice has been returned as undeliverable, or if the name of the person having legal title to the vehicle cannot reasonably be ascertained and the fair market value of the vehicle is less than eight hundred dollars ($800.00), the lienor may institute a special proceeding in the county where the vehicle is being held, for authorization to

sell that vehicle. Market value shall be determined by the schedule of values adopted by the Commissioner under G.S. 105-187.3.

In such a proceeding a lienor may include more than one vehicle, but the proceeds of the sale of each shall be subject only to valid claims against that vehicle, and any excess proceeds of the sale shall be paid immediately to the Treasurer for disposition pursuant to Chapter 116B of the General Statutes.

The application to the clerk in such a special proceeding shall contain the notice of sale information set out in subsection (f) hereof. If the application is in proper form the clerk shall enter an order authorizing the sale on a date not less than 14 days therefrom, and the lienor shall cause the application and order to be sent immediately by first-class mail pursuant to G.S. 1A-1, Rule 5, to each person to whom notice was mailed pursuant to this subsection. Following the authorized sale the lienor shall file with the clerk a report in the form of an affidavit, stating that the lienor has complied with the public or private sale provisions of G.S. 44A-4, the name, address, and bid of the high bidder or person buying at a private sale, and a statement of the disposition of the sale proceeds. The clerk then shall enter an order directing the Division to transfer title accordingly.

If prior to the sale the owner or legal possessor contests the sale or lien in a writing filed with the clerk, the proceeding shall be handled in accordance with G.S. 1-301.2.

(2) If the property upon which the lien is claimed is other than a motor vehicle required to be registered, the lienor following the expiration of the 30-day period provided by subsection (a) shall issue notice to the person having legal title to the property, if reasonably ascertainable, and to the person with whom the lienor dealt if different by ~~registered or~~ certified mail, return receipt requested. Such notice shall state that a lien has been asserted against specific property and shall identify the lienor, the date that the lien arose, the general nature of the services performed and materials used or sold for which the lien is asserted, the amount of the lien, and that the lienor intends to sell the property in satisfaction of the lien. The notice shall inform the recipient that the recipient has the right to a judicial hearing at which time a determination will be made as to the validity of the lien prior to a sale taking place. The notice shall further state that the recipient has a period of 10 days from the date of receipt in which to notify the lienor by ~~registered or~~ certified mail, return receipt requested, that a hearing is desired and that if the recipient wishes to contest the sale of his property pursuant to such lien, the recipient should notify the lienor that a hearing is desired. The notice shall state the required information in simplified terms and shall contain a form whereby the recipient may notify the lienor that a hearing is desired by the return of such form to the lienor. Failure of the recipient to notify the lienor within 10 days of the receipt of such notice that a hearing is desired shall be deemed a waiver of the right to a hearing prior to sale of the property against which the lien is asserted and the lienor may proceed to enforce the lien by public or private sale as provided in this section. If the lienor is notified within the 10-day period provided above that a hearing is desired prior to sale, the lien may be enforced by sale as provided in this section only pursuant to the order of a court of competent jurisdiction."

SECTION 12.(b) G.S. 44A-24.10 reads as rewritten:

"**§ 44A-24.10. Lien extinguished for lien claimant failing to file suit or answer in pending suit within 30 days after service on owner.**

If a lien claimant fails to file a suit to enforce the lien or fails to file an answer in a pending suit to enforce a lien within 30 days after a properly served written demand of the owner, lienee, or other authorized agent, the lien shall be extinguished. Service of the demand shall be by ~~registered or~~ certified mail, return receipt requested, or by personal service. The claimant shall file proof of properly served written demand with the clerk of the superior court. The provisions of this section shall not extend to any other deadline provided by law for the filing of any pleadings or for the foreclosure of any lien governed by this Part."

SECTION 12.(c) G.S. 44A-43 reads as rewritten:

"**§ 44A-43. Enforcement of self-service storage facility lien.**

…

(b) Notice and Hearing:

(1) If the property upon which the lien is claimed is a motor vehicle, the lienor, following the expiration of the 15-day period provided by subsection (a), shall give notice to the Division of Motor Vehicles that a lien is asserted and that a sale is proposed. The lienor shall remit to the Division a fee of two dollars ($2.00); and shall also furnish the Division with the last known address of the occupant. The Division of Motor Vehicles shall issue notice by ~~registered or~~ certified mail, return receipt requested to the person having legal title to the vehicle, if reasonably ascertainable, and to the occupant, if different, at his last known address. The notice shall:

…

c. State that the legal title holder and the occupant have a period of 10 days from the date of receipt of the notice in which to notify the Division of Motor Vehicles by ~~registered or~~ certified mail, return receipt requested, that a hearing is desired to contest the sale of the vehicle pursuant to the lien.

The person with legal title or the occupant must, within 10 days of receipt of the notice from the Division of Motor Vehicles, notify the Division of his desire to contest the sale of the vehicle pursuant to the lien, and that the Division should so notify lienor.

Failure of the person with legal title or the occupant to notify the Division that a hearing is desired shall be deemed a waiver of the right to a hearing prior to sale of the vehicle against which the lien is asserted. Upon such failure, the Division shall so notify the lienor; the lienor may proceed to enforce the lien by a public sale as provided by this section; and the Division shall transfer title to the property pursuant to such sale.

If the Division is notified within the 10-day period provided in this section that a hearing is desired prior to the sale, the lien may be enforced by a public sale as provided in this section and the Division will transfer title only pursuant to the order of a court of competent jurisdiction.

…

(c) Public Sale. –

(1) Not less than 20 days prior to sale by public sale the lienor:

a. Shall cause notice to be delivered by ~~registered or~~ certified mail to the person having a security interest in the property if reasonably ascertainable, and to the occupant at the occupant's last known address. Notice given pursuant to this subdivision shall be presumed delivered when it is properly addressed, first-class postage prepaid, and deposited with the United States Postal Service.

…."

SECTION 13. Sections 1 through 3 and Sections 5 through 11 of this act become effective January 1, 2013, and apply to improvements to real property for which the first permit required to be obtained is obtained on or after that date or, with respect to projects for which no permit is required, apply to improvement to real property commenced on or after that date. Sections 4, 12, and 13 of this act are effective when this act becomes law.

In the General Assembly read three times and ratified this the 29th day of June, 2012.

s/ Neal Hunt
Presiding Officer of the Senate

s/ Paul Stam
Presiding Officer of the House of Representatives

s/ Beverly E. Perdue
Governor

Approved 4:48 p.m. this 12th day of July, 2012

Section Six

Safety

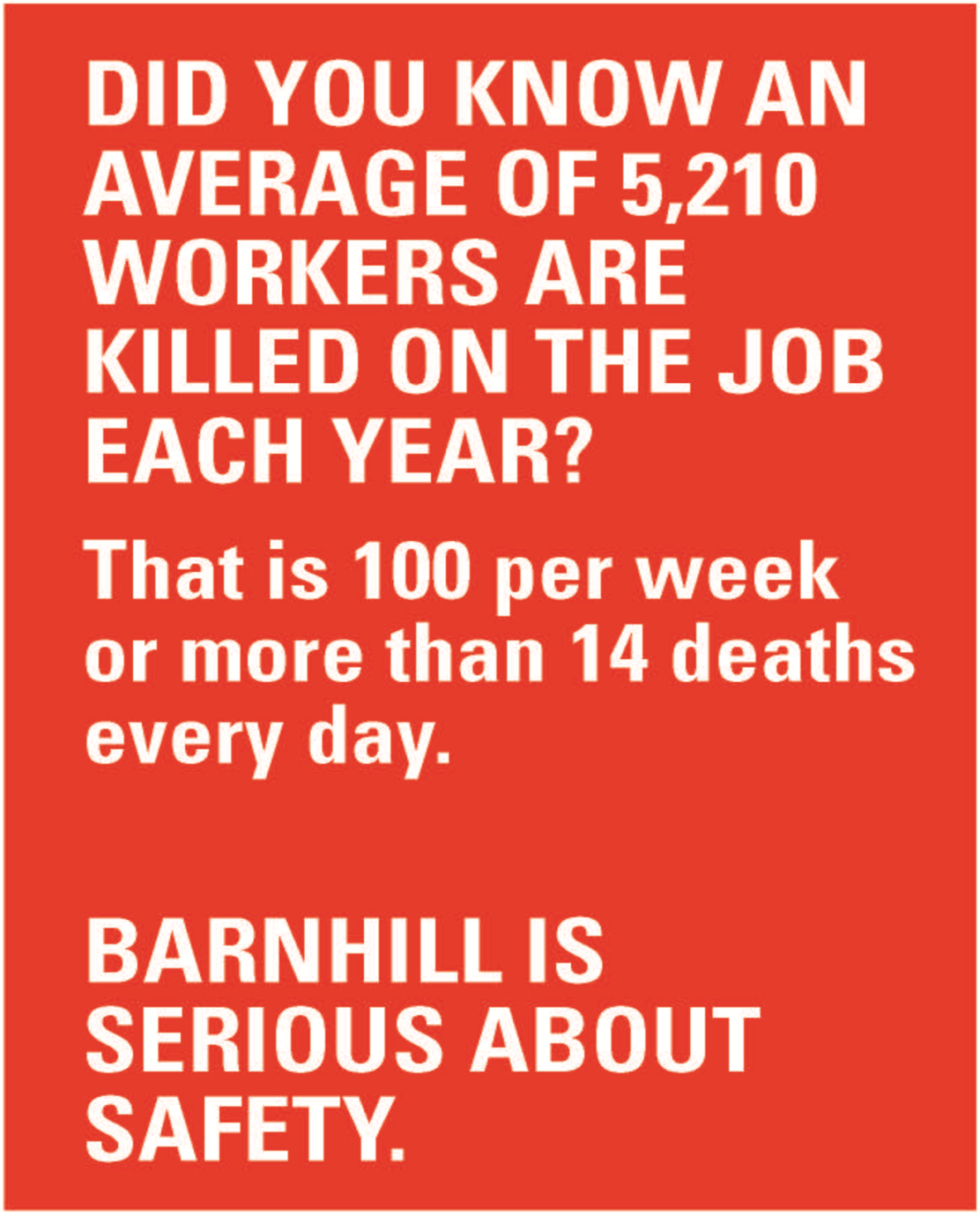
PROJECT SAFETY PLAN

PROJECT NAME:	Trask Middle School Renovations
LOCATION:	2900 North College Road Wilmington, NC 28405
BCC PROJECT NUMBER:	1102018
DATE:	March 31, 2019

BARNHILL CONTRACTING COMPANY

BARNHILL CONTRACTING COMPANY SAFETY MANUAL

A guide to **safety** in the **workplace**


DID YOU KNOW AN AVERAGE OF 5,210 WORKERS ARE KILLED ON THE JOB EACH YEAR?
That is 100 per week or more than 14 deaths every day.
BARNHILL IS SERIOUS ABOUT SAFETY.

Statement of Policy

At Barnhill Contracting Company, we are committed to ensuring a safe jobsite and strive to provide a safe and healthy work environment for employees, subcontractors, suppliers and the general public. All employees of Barnhill Contracting Company are responsible for conducting duties in accordance with our safety policy and will be held accountable for their safety performance. We strive to provide each employee with the training and tools to be successful. We will, at a minimum, fully comply with all local, state and federal safety, health and environmental regulations.

We are fully committed to the implementation of this policy and will make decisions that reflect our concern for our staff, subcontractors and community.

Sincerely,

Robert E. Barnhill, III
President

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01 PROGRAM OVERVIEW

Corporate Safety & Health Program

This policy is intended to: help prevent accidents, illnesses and injuries; increase safety awareness; meet requirements of environmental, occupational health, and safety laws and regulations; reduce corporate liability; and establish safety responsibilities for members of Barnhill Contracting Company's community, visitors to the company's jobsites and properties.

At Barnhill Contracting Company, safety is everyone's responsibility. All members of the company are expected to be thoroughly familiar with their safety responsibilities, strive to follow safety practices at all times, act proactively to prevent accidents and injuries, communicate hazards to supervisors and be prepared for emergencies that may occur in the workplace.

This Corporate Safety and Health Policy reaffirms Barnhill Contracting Company's commitment to safety and good environmental stewardship and establishes a uniform system to help individuals, departments and divisions meet their health and safety responsibilities. This policy outlines safety responsibilities and training requirements to ensure individual and corporate compliance with relevant environmental health and safety laws, regulations, policies and guidelines.

Barnhill Contracting Company's Safety Department will work closely with departments, divisions, safety committees, subcontractors, suppliers and individual employees throughout the company to ensure compliance with this policy.

Responsibility Overview

Management Responsibilities

» Provide time, training, tools, equipment and funds to ensure a safe jobsite

» Ensure funds for safety, OSHA and MSHA compliance are included in the bid process

» Implement quality assurance procedures throughout each project to prevent construction defects

» Hold company supervisors and subcontractors responsible for complying with the Corporate Safety and Health Program

» Encourage owners, subcontractors and suppliers to comply with the Corporate Safety and Health Program and to document violations

» Select subcontractors who are capable of performing at a high level of quality in a safe manner

» Ensure selected subcontractors provide a written copy of their safety program

» Ensure subcontractors have a signed contract and proof of adequate insurance on a project-by-project basis. The use of second tier subcontractors requires written authorization from Barnhill Contracting Company, in addition to proof of contractor's adequate insurance

Supervisor Responsibilities

» Wear appropriate personal protective equipment on jobsites

» Ensure all employees have completed the Barnhill Contracting Company Employee Orientation prior to starting work

» Verify each new employee has read and signed the acknowledgements in the Barnhill Contracting Company Safety and Health Program, New Employee Orientation and Training Checklist and Driver Safety Program

» Proactively manage day-to-day safety on the jobsite

» Identify hazards on the jobsite each day, develop a plan to eliminate hazards and document in your Daily Job Report

» Conduct weekly "Tool Box Safety Talks" and document attendance

» Review the Subcontractor Safety Addendum with all new subcontractors

» Stop and correct any work being performed in an unsafe manner immediately

» Practice good housekeeping – remove debris daily, store materials properly

2

» Maintain current on-site Safety Data Sheets (SDS) inventory as necessary

» Investigate all incidents promptly to determine root causes and make corrections

» Report all incidents in writing (near misses, injuries, property damage) to the office as soon as possible

» Secure prompt medical attention for any injured employee

» Prevent and/or stop water from entering buildings, using temporary means if necessary, to eliminate potential mold growth

» Protect materials from water saturation if stored outside

» Secure equipment and remove keys at the end of the day

Employee Responsibilities

» Report to work with a clear mind – drug and alcohol free

» Wear your personal protective equipment at all times

» Wear your seat belt at all times

» Wear your fall protection equipment or work behind guardrails if you are working in an area higher than six feet

» Wear proper clothing as defined under Proper Attire in Section 5

» Work safely. If you have a question about working safely, ask your supervisor

» Be familiar with Barnhill Contracting Company's safety policies and abide by them

» Report hazardous situations and accidents to your supervisor immediately

» Report to restricted work assignment (light duty) when offered

02 RULES OF OPERATION

Compliance with federal law is the responsibility of Barnhill Contracting Company (the employer). The prime contractor's representative will coordinate with subcontractors to ensure their safety compliance, which may be more appropriately treated on a jobsite basis rather than individually. All subcontractors and their employees are, by contract, subject to the safety rules while working on Barnhill Contracting Company projects and shall be responsible to the full extent of laws or regulations for their actions.

General Health & Safety Requirements

» Upon employment each employee shall receive a copy of Barnhill Contracting Company's Corporate Safety and Health Program

» Each employee shall be instructed in the identification and avoidance of unsafe conditions

» Programs shall be developed to provide for the frequent and regular inspections of the jobsite, materials and equipment to be made by a competent person designated by their employer

Incident Investigation & Reporting

All accidents on the jobsite, regardless of how minor, must be promptly reported to your immediate supervisor. Accidents may consist of employee injuries, damage to equipment and/or facilities or some combination of the above. Barnhill Contracting Company investigates accidents as part of our Corporate Safety and Health Program. All employees who are involved in a vehicular or personal accident must submit to a post-accident screening for alcohol and controlled substances. Refusal to submit to testing will result in immediate termination. Positive results of screening will subject the employee to a suspension of up to 45 days without pay.

Refer to the Drug and Alcohol Testing section of the Barnhill Contracting Company Employee Handbook for additional information.

Investigating Incidents

Barnhill Contracting Company will investigate all incidents, but the extent of such investigation will reflect the seriousness of the incident utilizing a root cause analysis process or other similar method.

Reporting Sequence

Reporting of the incident must occur in a specified manner and the reporting sequence must be posted. For example, in the event of an incident, the following are contacted in this order:

» 911

» Foreman or superintendent

» Division vice president

» Safety director

» Human resources and other personnel as required

Barnhill Contracting Company will also report required incidents to OSHA within eight hours of the incident. Incidents must also be reported to the owner representative as soon as possible or within 24 hours of the incident.

Defining Reportable Incidents

OSHA requires reporting of work-related incidents resulting in the death of an employee or the hospitalization of three or more employees. Owner representatives require all incidents to be reported including, but not limited to, injuries, spills, property damage, fires, explosions and vehicle damage.

Responsibilities

The company's Safety Director will be responsible for overseeing the investigation of all incidents. The Safety Director, along with employees, will be trained at the time they are hired, annually and when deemed necessary.

Employee Training

Barnhill Contracting Company will train employees in their roles and responsibilities for incident response and incident investigation techniques. Employees will be trained on incident investigation and reporting annually. Training will include: awareness, first responder and investigation.

Equipment

The company will have proper equipment available to assist in conducting an investigation. Equipment may include some or all of the following items: writing equipment such as pens and paper, measurement equipment such as tape measures, rulers, cameras, small tools, audio recorder, PPE, marking devices such as flags, equipment manuals, etc.

First Response

Employees who will be designated as First Responders will be trained and qualified in first aid techniques to control the degree of loss during the immediate post-incident phase.

Controlling Further Losses

After immediate rescue, actions to prevent further loss should occur. For example, maintenance personnel should be summoned to assess integrity of buildings and equipment, engineering personnel to evaluate the need for bracing of structures, and special equipment/response requirements such as safe rendering of hazardous materials or explosives employed.

Initial Identification & Assessments of Evidence

An initial identification/assessment of evidence will be performed immediately following the incident and will include:

» A list of people/employees involved

» Equipment and materials involved

» A recording of environmental factors such as the weather, illumination, temperature, noise, ventilation, etc.

Collection, Preservation & Security of Evidence

Evidence such as people, positions of equipment, parts and papers must be preserved, secured and collected through notes, photographs, witness statements, flagging and impoundment of documents and equipment.

Witness Interviews & Statements

Witness interviews and statements must be collected. Locating witnesses, ensuring unbiased testimony, obtaining appropriate interview locations and use of trained interviewers should be detailed. If follow-up interviews are required, the person conducting the investigation will notify the witnesses.

Identifying Corrective Actions

Barnhill Contracting Company will ensure incident investigations result in corrective actions. Employees will be assigned their responsibilities relative to the corrective actions, and these actions will be tracked to closure.

Preparing Incident Report

Written incident reports will include an incident report form and a detailed narrative statement concerning the events. The format of the narrative report will include an introduction, methodology, summary of the incident, investigation board member names, narrative of the event, findings and recommendations. Photographs, witness statements, drawings, etc. will also be included.

Lessons Learned

The company will review and communicate the lessons learned to all employees. Barnhill Contracting Company will ensure changes to processes are placed into effect to prevent reoccurrence of similar events.

This policy is intended to provide rules and guidelines for administering disciplinary action to Barnhill Contracting Company employees who violate safety rules and procedures or who, by their record or

actions, indicate a disregard for safety. Safety related disciplinary action will be administered through the Safety Director.

The purpose of this policy is to enhance safety awareness in all employees, and to motivate them to perform their work safely, in accordance with established safety rules, procedures and instructions.

Circumstances Leading to Disciplinary Action

Listed below are conditions that could be considered for disciplinary action under the provisions of the policy:

» Violation of a supervisor's safety related instructions

» Violation of established safety rules and/or procedures

» Violation of instructions posted on safety-related signs

» Obvious unsafe actions as may be indicated by the improper use of equipment, horseplay or practical joking, poor housekeeping practices, etc.

» Lack of concern toward safety instructions and programs

The above circumstances are not intended to be all inclusive. Any other circumstances that indicate an employee's disregard, for their safety, the safety of others or the neglect of proper care for equipment, may also result in disciplinary action under the provisions of this policy.

Procedures

Whenever a supervisor or other member of management observes an employee committing an unsafe act or creating or allowing a hazardous condition to exist, a Safety Violation Notice should be completed. The Safety Director will investigate any violation of the safety procedures and any accident where the cause is not clear. Their recommendation as to cause, preventable or non-preventable, will be made to the management. If the employee feels they have been treated unjustly, they will be allowed to appeal the decision. The appeal will be reviewed by the Safety Director and the employee's supervisor.

A copy of the violation form will be retained in the employee's personnel file, and each time a new violation form is received, the employee's file will be reviewed for previous violations. Where previous violations appear during a 12-month continuous period, the sanctions below will be implemented.

Employee Sanctions

The following sanctions apply for violations of safety procedures or involvement in any preventable accident:

» First incident - verbal warning with documentation

» Second incident - written warning with possible suspension

» Third incident - disciplinary action up to, and including, dismissal

» Fourth incident - dismissal

Supervisor Sanctions

The above sanctions also apply to supervisors who may be subject to disciplinary action when their employee receives some form of disciplinary action as noted above, or those who demonstrate negligence in their implementation or enforcement of written policy.

Barnhill Contracting Company wants to ensure supervisors are committed to the company's safety goals. Supervisors will be under the same level of disciplinary action; therefore, the Safety Director or a member of management will conduct physical inspections for violations that indicate a lack of commitment to the company's safety practices. Any member of the company's management and supervision team may be subject to these disciplinary guidelines as an individual or as a member of management.

Summary

The above disciplinary actions are a minimal guideline. Depending on the circumstances or the severity of the violation or incident, the level of discipline that is most appropriate for the time and action, up to and including, termination of employee or supervisor may be implemented.

Horseplay

Horseplay, being under the influence of alcohol or drugs, or consuming alcohol or drugs at work, will not be tolerated. Employees engaging in these practices will be subject to immediate dismissal.

Alcohol & Drug Use

Barnhill Contracting Company requires pre-employment, post accident/cause and random drug testing. Refusal to comply with testing is grounds for dismissal. Positive results of a substance abuse screen will subject the employee to suspension of up to 45 days without pay. The employee will have 45 days to clear his/her system of the involved substance and provide a negative urine sample or blood alcohol test. If the employee fails to provide a negative urine sample within 45 days, he/she will be terminated. If the employee clears his/her system within 45 days, he/she will be considered for return to full-work status. However, a second positive result within two years of such return to work will result in automatic dismissal.

Refer to the Drug and Alcohol Testing section of the Barnhill Contracting Company Employee Handbook for additional information.

Subcontractor Management Plan

Subcontractors shall not be allowed to begin work on a Barnhill Contracting Company project without a signed contract and adequate proof of insurance.

Subcontractor Pre-Qualification

Subcontractors will be pre-qualified by reviewing their safety programs, safety training documents and safety statistics.

Criteria for Selecting Subcontractors

Barnhill Contracting Company will use an acceptable safety metric to compare and qualify the

subcontractor's safety manual, safety programs, safety training, documentation and safety statistics. The company will select a contractor based on their safety performance and lowest risk and injury ratings including Total Recordable Incidence Rate (TRIR), Experience Modification Rate (EMR), Days Away, Restricted or Transferred Rate (DART) and fatality rate. If only two contractors remain for selection, the subcontractor with the best safety and lowest injury rating will be chosen.

Pre-Job Meetings & Safety Orientations

Barnhill Contracting Company will ensure all subcontractors are included in pre-job meetings, kick-off meetings and safety orientations. Each subcontractor will be contacted directly by the company and made aware of any such meeting or safety orientation. Each individual subcontractor will print their name and place their signature on the "Meeting Sign-In Sheet."

Tailgate Safety Meetings - Job Safety Analysis - Hazard and Job Safety Inspections

Barnhill Contracting Company will make sure all subcontractors are included in tailgate safety meetings, job safety analysis or hazard assessments and on-the-job safety inspections. Each subcontractor will be contacted directly by the company and made aware of any such tailgate safety meeting, job safety analysis or hazard and job safety inspections. Each individual subcontractor will print their name and place their signature on the "Tailgate Safety Meeting Sign-In Sheet." Otherwise, each subcontractor will take part in each job safety analysis or hazard and job safety inspection.

Conducting Post-Job Safety Performance Reviews

Barnhill Contracting Company will conduct post-job safety performance reviews on all subcontractors.

Safety Orientation for New Employees

When a new employee is hired by Barnhill Contracting Company, the employee's supervisor must conduct a safety orientation prior to the new employee beginning work. Supervisors must fill out a New Employee Orientation Checklist.

Project Preparation Checklist

When starting a new project, the project manager and superintendent will ensure the following preparations are made on the jobsite:

» Federal and state employment and safety posters posted

» Emergency telephone numbers posted

» Nearest medical facility posted

» Copy of Barnhill Contracting Company's Corporate Safety and Health Program

» Barnhill Contracting Company's Hazard Communication Program with specific Safety Data Sheets

» Charged fire extinguishers available

» Fully stocked first-aid kit available

» An adequate supply of drinking water and individual cups shall be available. Portable containers used

to dispense water should be tightly closed and equipped with a top – water should not be dipped from the container. The container shall be clearly marked "DRINKING WATER" and not be used for any other purpose. Cups shall be stored in a sanitary container and a receptacle for discarding used cups shall be available

- Adequate restroom facilities available. Restroom facilities will be provided for employees with at least one toilet seat and urinal for 20 workers. An additional restroom will be added for each 20 workers of fraction thereof
- Safety and personal protective equipment secured
- Adequate protection for the general public available
- Established, safe traffic routes for equipment and vehicles including designated employee parking
- Proper traffic control procedures provided
- Adequate security of tools and equipment provided
- Good housekeeping is required in all areas

Emergency Action Plan

Each office and jobsite will have an Emergency Action Plan. The Barnhill Contracting Company Emergency Action Plan serves as an avenue to inform all contractors, emergency personnel, employees and designated medical personnel of the procedures which will be followed in the event of an emergency or severe weather conditions on the jobsite.

If an emergency or severe weather conditions arise on the jobsite, the superintendent or foreman will make the response determination and notify all construction personnel on site. The notification signal will consist of three short blasts of an air horn followed by a 30-second delay. This signal will be repeated until all construction personnel have evacuated the jobsite. Additionally, announcements and warnings will be issued verbally, electronically or by telephone.

In conjunction with the air horn signal, the Barnhill Contracting Company primary contact person will contact all contractor's superintendents on the jobsite to notify them of the situation. Each contractor's superintendent will be responsible for notifying their employees who may not be able to hear the air horn signal. All Barnhill Contracting Company employees and contractor personnel should report to the predetermined site as specified in the project's Emergency Action Plan.

Representatives from Barnhill Contracting Company and each contractor will conduct a "head count" and report the findings as "all accounted for" or "missing employees" to the Barnhill Contracting Company project superintendent of foreman.

Monitoring Extreme Weather Conditions

Monitoring of extreme weather such as high winds, precipitation, extremely high or low temperatures, tornadoes, floods, hurricanes, earthquakes and lightning is necessary to determine timely implementation of the Emergency Action Plan. In the event of an extreme weather situation, employees may be allowed to go home to prepare for such conditions.

Emergency Evacuation Plan

If evacuation of the site is required, the Barnhill Contracting Company superintendent or foreman will make the determination and notify all construction personnel on site. Emergency evacuation of the site may be necessitated by any of the following conditions:

» Natural disasters

» Transportation accidents

» Utility emergencies

» Chemical/toxic substance release

» Material or machinery failures

» Electrical emergencies

» Fire or explosions

» Search and rescue

» Bomb threats

» Terrorist threat and/or attack

Emergency Response - Fire/Emergency Medical/Law Enforcement Agencies

In case of an emergency involving fire, emergency medical, or law enforcement agencies on the jobsite, the following procedures shall be followed:

Fire - Call 911

Fire extinguishers will be located on the jobsite to contain small fires. In the event of a fire on the jobsite, the site will be evacuated as outlined above (air horn signaling) and the designated primary contact person will notify each contractor's superintendent. Construction personnel should never re-enter the building or site during evacuation and should never attempt to fight a blazing fire. The Barnhill Contracting Company superintendent or foreman will meet with fire fighting personnel.

Emergency Medical - Call 911

In the event of a medical emergency on the jobsite, a Barnhill Contracting Company staff member will be the first responder and will render first aid if required. A Barnhill Contracting Company staff member will notify the jobsite's designated primary contact person and briefly describe the injury or occurrence so that the contact person can give the proper information to the 911 dispatcher. The primary contact person will call 911 and stay on the line until the dispatcher releases them and/or emergency medical personnel arrive on the jobsite. If other contractors on the jobsite have personnel who are certified in first aid and CPR, those people will be incorporated into the emergency response plan as first responders.

In the event of a non-life-threatening medical emergency, a Barnhill Contracting Company staff member will be the first responder. If required, the staff member will escort the individual to an appropriate medical facility.

03 OSHA/MSHA INSPECTIONS

Authorization

Under the Occupational Safety and Health Act of 1970 (the Act) and the Federal Mine Safety and Health Act of 1977 (the Act), the Occupational Safety and Health Administration (OSHA) and Mine Safety and Health Administration (MSHA) are authorized to conduct workplace inspections and investigations to determine whether employers are complying with standards issued by the agencies for safe and healthful workplaces.

Workplace inspections and investigations are conducted by OSHA or MSHA compliance safety and health officers, who are safety and health professionals trained in the disciplines of safety and industrial hygiene.

If OSHA/MSHA request to do an inspection on your jobsite, please notify the Safety Director immediately.

Credentials

When the OSHA compliance officer arrives at the jobsite, he/she displays official credentials and asks to meet an appropriate Barnhill Contracting Company representative. You should always ask to see the compliance officer's credentials.

You may verify the OSHA federal or state compliance officer credentials by calling the nearest federal or state OSHA office. Compliance officers may not collect a penalty at the time of the inspection or promote the sale of a product or service at any time; anyone who attempts to do so is impersonating a government inspector and you should contact the Federal Bureau of Investigation or local law enforcement officials immediately.

Opening Conference

In the opening conference, the compliance officer explains how the jobsite was selected and what the

likely scope of the inspection will be. The compliance officer will ascertain whether an OSHA-funded consultation visit is in progress or whether the worksite is pursuing, or has received, an inspection exemption through the consultation program; if so, the inspection may be limited or terminated.

The compliance officer explains the purpose of the visit, scope of the inspection, and the standards that apply. The compliance officer gives Barnhill Contracting Company information on how to obtain a copy of applicable safety and health standards as well as a copy of any employee complaint that may be involved (with the employee's name deleted if the employee has requested anonymity).

The highest-ranking project team members from Barnhill Contracting Company will accompany the compliance officer on the inspection and participate in the opening conference.

The Act does not require an employee representative for each inspection. Where there is no authorized Barnhill Contracting Company representative, however, the compliance officer must consult with a reasonable number of employees concerning safety and health matters in the workplace.

Walk-Through

After the opening conference, the compliance officer and Barnhill Contracting Company representatives proceed through the workplace to inspect work areas for safety and health hazards.

The compliance officer determines the route and duration of the inspection. While talking with employees, the compliance officer makes every effort to minimize work disruptions. The compliance officer observes safety and health conditions and practices; consults with employees privately, if necessary; takes photos, videotapes and instrument readings; examines records; collects air samples; measures noise levels; surveys existing engineering controls; and monitors employee exposure to toxic fumes, gases and dusts.

The Barnhill Contracting Company representative should accompany the compliance officer and document as the compliance officer documents – taking photographs, videotaping and instrument readings for company records.

An inspection tour may cover part or all of a worksite, even if the inspection resulted from a specific complaint, fatality or catastrophe. If the compliance officer finds a violation in open view, he/she may ask permission to expand the inspection.

The compliance officer keeps all trade secrets observed confidential.

The compliance officer consults employees during the inspection tour. He/she may stop and question workers, in private, about safety and health conditions and practices in their workplaces. Each employee is protected by the Act from discrimination by Barnhill Contracting Company for exercising his/her safety and health rights.

OSHA places special importance on posting and record-keeper requirements. The compliance officer will inspect records of deaths, injuries and illnesses that Barnhill Contracting Company is required to keep. He/she will check to see that a copy of the totals from the last page of the OSHA Form Number 300 are posted as required and that the OSHA workplace poster (OSHA 3165), which explains employees' safety and health rights, is prominently displayed. Where records of employee exposure to toxic substances and harmful physical agents are required, the compliance officer will examine them for compliance with record-keeper requirements.

The compliance officer also requests a copy of Barnhill Contracting Company's Hazard Communication Program contained in this handbook. Under OSHA's Hazard Communication Standard, employers must establish a written, comprehensive hazard communication program that includes provisions for container labeling, safety data sheets and an employee training program. The program must contain a list of the hazardous chemicals in each work area and the means Barnhill Contracting Company will use to inform employees of all the hazards associated with these chemicals.

During the course of the inspection, the compliance officer will point out to Barnhill Contracting Company any unsafe or unhealthful working conditions observed. At the same time, the compliance officer will discuss possible corrective action if Barnhill Contracting Company so desires.

Some apparent violations detected by the compliance officer can be corrected immediately. When corrected on the spot, the compliance officer records such corrections to help in judging Barnhill Contracting Company's good faith in compliance. Although corrected, the apparent violations will serve as the basis for a citation and, if appropriate, a notice of proposed penalty. OSHA may reduce the penalties for some types of violations if they are corrected immediately.

Closing Conference

At the conclusion of the inspection, the compliance officer conducts a closing conference with Barnhill Contracting Company employees and/or Barnhill Contracting Company representatives.

The compliance officer gives Barnhill Contracting Company and all parties involved a copy of the Employer Rights and Responsibilities Following an OSHA Inspection (OSHA 3000) for review and discussion.

The compliance officer discusses with Barnhill Contracting Company all unsafe or unhealthful conditions observed during the inspection and indicates all apparent violations for which he/she may issue or recommend a citation and a proposed penalty. The compliance officer will not indicate any specific proposed penalties but will inform Barnhill Contracting Company of their right to appeal.

During the closing conference, Barnhill Contracting Company may want to produce records to show compliance efforts and provide information to help OSHA determine how much time may be needed to abate an alleged violation.

When appropriate, the compliance officer may hold more than one closing conference. This is usually necessary when the inspection includes an evaluation of health hazards, after a review of additional laboratory reports or after the compliance officer obtains additional factual evidence while concluding an accident investigation.

04 OCCUPATIONAL HEALTH & ENVIRONMENTAL CONTROL

First Aid & CPR Program

In the absence of an available infirmary, clinic, hospital or physician that is reasonably accessible to the worksite, both in terms of time and distance, a person with a valid certificate in first-aid training will be available at the worksite to render first aid.

Upon request, the company will make available a valid certificate in first-aid training from the US Bureau of Mines, American Red Cross, or equivalent training that will be verified by documentary evidence.

Jobsite-Specific

Provisions shall be made prior to the start of the project for prompt medical attention in case of serious injury, including a written Accident Report that is available at the company's office.

First Aid Kits

All first aid supplies shall be reasonably accessible when required. Every company first aid kit shall consist of the following items, as required in OSHA 29 CFR 1910.266 Appendix A:

Items Required for First Aid Kits	
Item	**Number**
32" absorbent compress	1
1" x 3" adhesive bandages	16
Adhesive tape	5 yards total
40" triangular bandage	1
1" roller gauze	1

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Items Required for First Aid Kits	
3"x 3" sterile pads	4
Antiseptic ointment applicators	10
Burn treatment ointment applicators	6
Disposable latex gloves	2 pair
Antibiotic treatments	6
Antibiotic wipes	10
Antiseptic towelettes	10
4" x 6" bandages	1
2" x 6" bandages	2
Eye wash	2
Eye patches	2
Coldpack	1
4" x 4" burn dressing	1

The contents of the first aid kit shall be placed in a weatherproof container with individual sealed packages of each item, and shall be checked by the company before being sent out to each jobsite and on a weekly basis by the foreman or superintendent to ensure that expended items are replaced.

Eye Wash

Where a person's eyes or body may be exposed to injurious corrosive materials, suitable facilities for quick drenching of the eyes and body shall be provided within the work area for immediate emergency use. The Safety Director will ensure that, when required, the company will have a certified eye wash device on site at all times.

Emergency Procedures/Requirements

The Safety Director will ensure a weekly review of the company's written procedures for each jobsite is performed and will be responsible for ensuring that in areas where 911 service is unavailable, the telephone numbers of the physicians, hospitals or ambulances are conspicuously posted. Proper equipment for prompt transportation of the injured person to a physician or hospital, or a communication system for contacting necessary ambulance service, shall be provided at each jobsite.

Heat-Related Illness Prevention Program

Work involving high temperature, radiant heat sources, high humidity, direct physical contact with hot objects or strenuous physical activities have a high potential for inducing heat stress in workers.

Potable Drinking Water

Barnhill Contracting Company will ensure employees have access to potable drinking water. Where it is not plumbed or otherwise continuously supplied, drinking water will be provided in sufficient quantity at the beginning of the work shift.

Shade

The company will ensure employees suffering from heat illness or who believe that a preventative

recovery period is needed, will be provided access to an area with shade that is either open to the air or provided with ventilation or cooling for a period of no less than five minutes. When temperatures are at, or below, 85°F, employees will have timely access to shade upon request. For temperatures at, or above, 85°F, one or more areas with shade will be provided at all times while employees are present.

High-Heated Temperatures

The company has established high-heat procedures when the temperature exceeds 95°F. High-heat procedures will include, but are not limited to:

- Effective communication by voice, observation or electronic means
- Observation of employees for alertness
- Reminder to employees to drink water throughout the shift
- Close supervision of employees for their first 14 days of employment

Employee Training

The company will provide employee training on the following:

- Environmental and personal risk factors for heat illness
- Procedures for complying with the requirements of this standard
- Importance of the frequent consumption of small quantities of water (up to four cups per hour) when the work environment is hot and employees are likely to be sweating more than usual during the performance of their duties
- Importance of acclimatization
- Different types of heat illness and the common signs and symptoms of each.
- Importance of immediately reporting to the company, directly or through the employee's supervisor, symptoms or signs of heat illness in themselves or in coworkers
- Company's procedures for responding to symptoms of possible heat illness, including how emergency medical services will be provided should they become necessary
- Company's procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider
- Company's procedures for ensuring that, in an emergency, clear and precise directions to the worksite can and will be provided as needed to the emergency responders

Supervisor Training

The company will ensure supervisors are trained in heat-related illness prior to the supervision of employees working in heat. Training on the following topics will be provided:

» Procedures the supervisor is to follow to implement the applicable procedures to prevent heat illness

» Procedures the supervisor is to follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures

» Supervisors will take into consideration personal factors that contribute to heat-related illness before assigning a task where there is a possibility of the occurrence of a heat-related illness. The most common personal factors contributing to heat-related illness are age, weight, fitness, drug or alcohol use, prior heat-related illness, etc.

Physical Work Factors

Barnhill Contracting Company will ensure physical factors that contribute to heat-related illness are taken into consideration before performing a task. The most common physical factors that can contribute to heat-related illness are type of work, level of physical activity and duration, and clothing color, weight and breathability.

Back Injury Prevention Procedures

Most back injuries can be avoided by using correct lifting procedures. Though the back can absorb some of the shock of the body being put into stress, a healthy back can be damaged if lifting and carrying are not performed correctly. Supervisors are responsible for ensuring that all employees follow these procedures.

Lifting Procedures

» Primary Rule of Lifting: GET HELP IF YOU HAVE TO STRAIN TO LIFT THE LOAD!

» Look at the area around the load to ensure you have a clear work area, or path, prior to lifting

» Size up the load before lifting. Test lift the load to determine the weight and center of load. DO NOT lift more than you can handle. Always get help for loads weighing more than 50 pounds

» Position yourself over the load with your feet in a forward/backward stride, with one foot at the side of the object. Space your feet far enough apart to ensure good balance

» Bend your knees and lower your body, keeping your back straight. Tuck your chin in under your chest so that your head and neck line up with your back to keep your back straight

» Place your hands under the object and grip firmly with your palms. Wrap your arms around the object or grasp any handles. If an object is flat on the floor, use both hands to lift a corner of the object, and then slip your hand under it. You can then lift the object to get the other hand underneath the object

» Pull the object close to your body, tucking arms and elbows into your sides to center your body weight

» Lift straight with a thrust of your rear foot. Slowly straighten your legs, keeping your chin tucked in and your back straight. Keep the object's weight over your legs as much as possible. The muscles in your legs should be lifting the load, not your back muscles

» Pick up the object in the direction of travel to prevent twisting your knees or back. If you must turn to another direction while carrying a load, do not rotate your body. Take short steps to turn in the direction of travel

» Prepare to land the load by pre-planning and clearing the intended path of travel. Make sure you have a solid place to land the load

» Do not pull an object off a shelf without knowing its weight. Position a secure work platform so that your chest is even with, or above, the load. Test it before you lift it

» Floppy rods, pipes, or lumber should be tied together in several places before carrying

» When carrying long objects, use caution when turning to avoid swinging the ends of the material around and striking another employee

» After temporary electricity is established on the project, metal objects longer than ten feet require one person on each end of the object exercising total control to prevent the object from coming in contact with energized electrical devices

Back Injury Prevention Tips for Equipment Operators & Truck Drivers

Entering the Cab Safely:

» Face the vehicle or machine

» Grasp the handhold to steady yourself

» Step up lifting yourself with your legs, not your arms

» When you reach the top and settle into the cab, grasp the wheel, keeping your back as straight as possible

Safe Driving Posture:

» Align your ears, shoulders and hips into a straight line

» If possible, adjust your seat so that your knees are level with your hips and the steering wheel is at a comfortable angle for your shoulders and arms

» If necessary, use a back support (rolled up towel) to cushion your lower back

» Stretch to loosen your back while in the cab (unless prohibited to do so by doctor's orders)

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» Gently roll your neck in a circular motion, keeping your eyes on the road. Roll your neck three to four times in each direction, letting your head rest briefly in places that feel right. Repeat this exercise hourly

» Raise both shoulders as high as you can (try to touch your ears). Hold for a count of five, repeat five times at least once per hour

» Tighten your stomach muscles, pushing back and down into the seat. Flatten your back and hold for several seconds. Repeat two to three times at least once an hour

Exiting the Cab Safely:

» Grasp the wheel and back out of the cab

» Reach for the handhold and gently lower yourself all the way to the ground. DO NOT JUMP

» Perform a "back break" after exiting the cab. Stand with your feet apart and place your hands on the small of your back. Gently arch your back, bending your head and neck backward. Hold for a count of five, repeat five times

05 PERSONAL PROTECTIVE & LIFESAVING EQUIPMENT

Personal Attire

OSHA requires employers to establish and enforce a personal attire policy to ensure a safe work operation. It is the responsibility of all employees to comply with this policy.

» **Footwear** - leather uppers high or low quarter shoes, sturdy sole with heel, laces without buckle. Steel-toed or composite-toed footwear shall be worn when there is danger of material or items falling on the toes of the feet or when working on a client's property where they are required

» **Pants** - top of length instep, sturdy and comfortable with or without cuffs, but not excessively cuffed or flared

» **Shirts** - knit or woven material styled to cover upper arm, shoulders, chest and midriff

Personal Protective Equipment Program & PPE Assessments

Training

Barnhill Contracting Company shall provide training to each employee who is required to use the Personal Protective Equipment (PPE). Each employee will be trained to know the following, at a minimum:

» When PPE is necessary

» What PPE is necessary

» How to properly put on, take off, adjust and wear PPE

» Limitations of the PPE

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» Proper care, maintenance, useful life and disposal of the PPE

Each affected employee shall demonstrate an understanding of the training specified in the list above and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE. When the company has reason to believe that any affected employee who has already been trained does not have the understanding and skill required, the company will retrain such employee.

Circumstances where retraining of an employee is required include, but are not limited to, the following:

» Changes in the workplace render previous training obsolete

» Changes in the types of PPE to be used render previous training obsolete

» Inadequacies in an affected employee's knowledge or use of assigned PPE indicate that the employee has not retained the requisite understanding or skill

The company shall verify that each affected employee has received and understood the required training program through a written certification that will include:

» Name of each employee trained

» Date(s) of training

» Name of division or office

» Subject of the certification

Personal Protective Equipment

Protective equipment for the company employees includes personal protective equipment for:

» Eyes

» Face

» Head

» Extremities

» Protective clothing

» Respiratory devices

» Protective shields and barriers

The PPE will be provided, used and maintained in a sanitary and reliable working condition wherever it is necessary by reason of:

» Hazards of processes or environment

» Chemical hazards

» Radiological hazards

» Mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact

Head Protection

Hardhats are required for workers:

» In areas where there is danger of a head injury from impact, falling objects or debris, or where there is danger of electrical shock or burns

» In a trench or other excavation where soil or other objects could strike the head from above

» Working in or near a building under construction or repair

» Working in or around asphalt plants

» Working on a jobsite where the owner requires employees to wear safety headgear

Safety Vest or Coat

All field employees will be required to wear a safety vest or jacket that meets the requirements of ANSI 107-2004 Class II. Class III safety vests or jackets should be worn at night and in low-light conditions.

Hearing Protection

When it is impossible to reduce noise levels or the duration of exposure, ear protection devices will be provided for worker's use. Approved hearing protection will be worn as specified in posted areas while working with, or around, high-noise level producing machines, tools or equipment. Rule of thumb - when you must raise your voice to be heard, you need hearing protection!

Permissible Noise Exposures	
Duration per day (hours)	Sound level dBA slow response
8	90
6	92
4	95
3	97
2	100
1.5	105
.5	110
.25 or less	115
Sound Levels	
Equipment/Tool	Sound Level Created
Pneumatic chipping hammer	103-113
Jackhammer	102-111
Concrete joint cutter	99-102
Skill saw	88-102
Stud welder	101
Bulldozer	93-95
Crane	90-96
Hammer	87-95
Backhoe	84-93

Eye & Face Protection

Employees will be provided with eye and face protection equipment when operations present the potential for eye or face injury from physical, chemical or radiation agents. Choice of eye or face protection will be determined per the hazard and each employee will be trained in the proper selection of eye and face protection as needed. Workers wearing prescription glasses may do the following:

» Obtain prescription safety glasses with side shields

» Wear over-the-counter safety glasses

» Wear mono-goggles

Additionally, the following eye/face equipment must be used when performing the following work activities:

Work Activity	Required Eye/Face Equipment
Welding	Welding hood
Burning	Burning goggles
Grinding	Face shield
Chemical handling	Face shield
Molten materials	Face shield
Corrosive Liquids	Face shield
Concrete Pouring	Face shield

Employee-Owned Equipment

Where employees provide their own protective equipment, the company will continue to be responsible to assure its adequacy, including proper maintenance and sanitation of such equipment.

Hazard Assessment & Equipment Selection

Barnhill Contracting Company shall assess the workplace to determine if any hazards are present, or are likely to be present, which necessitate the use of PPE. The company will verify that the required workplace hazard assessment has been performed through a written certification that will include:

» Workplace evaluated

» Identity of the person certifying that the evaluation was performed

» Dates of the hazard assessment

» Identify the document as a certification of hazard assessment

If such hazards are present, or are likely to be present, the company will:

» Communicate selection decisions to each affected employee

» Select the types of PPE that will properly fit and best protect the affected employee from the hazards identified in the hazard assessment

» Defective or damaged PPE shall not be used

06 RESPIRATORY PROTECTION

Respiratory Protection Overview

Barnhill Contracting Company will provide effective training to employees who are required to use respirators. The training must be comprehensive, understandable, and recur annually and more often if necessary. If company employees choose to voluntarily use respirators, they will be required to review and comprehend some basic information about respirators such as:

» Why the respirator is necessary and how improper fit, usage or maintenance can compromise the protective effect of the respirator

» What the limitations and capabilities of the respirators are

» How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions

» How to inspect, put on and remove, use, and check the seals of the respirator

» How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators

» General requirements of this section

The training will be conducted in a manner that is understandable to the employee. The company shall provide the training prior to requiring the employee to use a respirator in the workplace. Previous training not repeated initially by the company must be provided no later than 12 months from the date of the previous training.

Retraining shall be administered annually, and when the following situations occur:

» Changes in the workplace or the type of respirator render previous training obsolete

» Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill

» Any other situation arises in which retraining appears necessary to ensure safe respirator use

General Practices

In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, the substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used:

» When the atmosphere is oxygen with oxygen content below 19.5% by volume

» When such equipment is necessary to protect the health of the employee. The company shall provide respirators that are applicable and suitable for the purpose intended

Program Administrator

Barnhill Contracting Company has designated the Safety Director as the program administrator who is qualified through appropriate training or experience commensurate with the complexity of the program to oversee the Respiratory Protection Program and conduct the required evaluations of program effectiveness.

Surveillance

Appropriate surveillance of work area conditions and degree of employee exposure or stress shall be maintained. When there is a change in work area that may affect respirator effectiveness, the company shall re-evaluate the continued effectiveness of the respirator. The program administrator will ensure employees leave the area to wash, change cartridges or if they detect break-through or resistance.

Plan

In any workplace where respirators are necessary to protect the health of the employee or whenever respirators are required by the company a written Respiratory Protection Program with worksite-specific procedures will be implemented. The program shall be updated as necessary to reflect those changes in workplace conditions that affect respirator use.

Selection of Respirators

Barnhill Contracting Company shall select and provide an appropriate respirator based on the respiratory hazard(s) to which the worker is exposed as well as workplace and user factors that affect respirator performance and reliability. The respirator shall be a National Institute for Occupational Safety and Health (NIOSH)-certified respirator used in compliance with the conditions of its certification.

The company will identify and evaluate the respiratory hazard(s) in the workplace. This evaluation includes a reasonable estimate of employee exposures to respiratory hazard(s) and an identification of the contaminant's chemical state and physical form.

The company shall select respirators from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.

Where the company cannot identify or reasonably estimate the employee exposure, the company will consider the atmosphere to be Immediately Dangerous to Life or Health (IDLH).

Respirators for Immediately Dangerous to Life or Health (IDLH) Atmospheres

The company provides the following respirators for employee use in IDLH atmospheres:

» A full facepiece pressure demand self-contained breathing apparatus (SCBA) certified by NIOSH for a minimum service life of 30 minutes

» A combination full facepiece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply

» Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used

» All oxygen-deficient atmospheres shall be considered IDLH. **Exception:** If the company demonstrates that, under all foreseeable conditions, the oxygen concentration can be maintained within the ranges specified in the following table (i.e. for the altitudes set out in the table), then any atmosphere-supplying respirator may be used

Oxygen Concentration Ranges	
Altitude (feet)	Oxygen deficient atmospheres (% 0_2) for which the employer atmosphere-may rely on supplying respirators
Less than 3,001	16.0 - 19.5
3,001 - 4,000	16.4 - 19.5
4001 - 5,000	17.1 - 19.5
5,001 - 6,000	17.8 - 19.5
6,001 - 7,000	18.5 - 19.5
7,001 - 8,000	19.3 - 19.5
Above 8,000 feet the exception does not apply. Oxygen-enriched breathing air must be supplied above 14,000 feet.	

Medical Conditions

Barnhill Contracting Company shall provide a medical evaluation to determine the employee's ability to use a respirator before the employee is fit tested or required to use the respirator in the workplace. The company may discontinue an employee's medical evaluations when the employee is no longer required to use a respirator.

Administration of the Medical Questionnaire & Evaluations

The medical questionnaire and examinations shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire shall be administered in a manner that ensures that the employee understands its content. The company shall provide the employee with an opportunity to discuss the questionnaire and examination results with a physician or other licensed healthcare professional.

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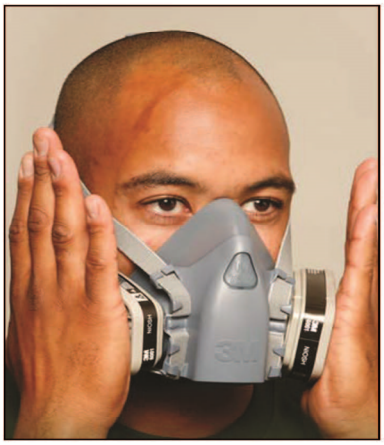
Fit Testing

Before an employee is required to use any respirator with a negative or positive pressure tight-fitting facepiece, the employee must be fit tested with the same make, model, style and size of respirator that will be used. The company requires all employees using a tight-fitting facepiece respirator to pass an appropriate qualified fit test (QLFT) or quantitative fit test (QNFT). The company requires that an employee using a tight-fitting facepiece respirator is fit tested prior to initial use of the respirator, whenever a different respirator facepiece (size, style, model or make) is used, and at least annually thereafter.



The company shall conduct an additional fit test whenever the employee reports, or a physician or other licensed healthcare professional, supervisor, or company's program administrator makes visual observations of changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.

If after passing a QLFT or QNFT, the employee subsequently notifies the company's program administrator, the physician or other licensed healthcare professional that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator facepiece and be retested. The fit test shall be administered using OSHA-accepted QLFT or QNFT protocol. QLFT may only be used to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less.

If the fit factor, as determined through an OSHA-accepted QNFT protocol, is equal to or greater than 100 for tight-fitting half facepieces, or equal to or greater than 500 for tight-fitting full facepieces, the QNFT has been passed with that respirator.

Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air purifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.

Qualitative fit testing of these respirators shall be accomplished by temporarily converting the respirator user's actual face piece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure air-purifying respirator facepiece with the same sealing surfaces as a surrogate for the atmosphere-supplying or powered air-purifying respirator facepiece.

Quantitative fit testing of these respirators shall be accomplished by modifying the facepiece to allow sampling inside the facepiece in the breathing zone of the user, midway between the nose and mouth. This requirement shall be accomplished by installing a permanent sampling probe onto a surrogate

facepiece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the facepiece.

Modifications to the respirator facepiece for fit testing shall be completely removed, and the facepiece restored to NIOSH-approved configuration, before that facepiece can be used in the workplace.

Facepiece Seal Protection

Barnhill Contracting Company shall not permit respirators with tight-fitting facepieces to be worn by employees who have:

» Facial hair that comes between the sealing surface of the facepiece and the face or that interferes with the valve function

» Any condition that interferes with the face-to-facepiece seal or valve function

If an employee wears corrective glasses or goggles or other personal protective equipment, the company shall ensure that such equipment is worn in a manner that does not interfere with the seal of the facepiece to the face of the user.

For all tight-fitting respirators, the company shall ensure that employees perform a user seal check each time they put on the respirator using CFR 1910.134 Respiratory Protection Appendix B-1: User Seal Check Procedures, or the procedures recommended by the respirator manufacturer when the company can demonstrate that they are as effective.

Procedures for IDLH Atmospheres

For all IDLH atmospheres, Barnhill Contracting Company's procedures are:

» One employee, or when needed, more than one employee is located outside the ILDH atmosphere

» Visual, voice or signal line communication is maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the ILDH atmosphere

» The employee(s) located outside the ILDH atmosphere is trained and equipped to provide effective emergency rescue

» The company, or designee, is notified before the employee(s) located outside the IDLH atmosphere enter the IDLH atmosphere to provide emergency rescue

» The company, or designee authorized to do so by the company once notified, provides necessary assistance appropriate to the situation

Employee(s) located outside the IDLH atmospheres are equipped with:

» Pressure demand or other positive pressure SCBA, or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA

» Appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry

» Equivalent means for rescue where retrieval equipment is not required

Maintenance & Care

Barnhill Contracting Company will provide for the cleaning and disinfecting, storage, inspection and repair of respirators used by employees.

Cleaning & Disinfecting

The company will provide each employee with a respirator that is clean, sanitary and in good working order. The company shall ensure that respirators are cleaned and disinfected using the procedures recommended by the respirator manufacturer, provided that such procedures are of equivalent effectiveness.

The respirators shall be cleaned and disinfected at the following intervals:

» Respirators issued for the exclusive use of an employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition

» Respirators issued to more than one employee shall be cleaned and disinfected before being worn by different individuals

» Respirators maintained for emergency use shall be cleaned and disinfected after each use

» Respirators used in fit testing and training shall be cleaned and disinfected after each use

The program administrator must address appropriate surveillance and ensure employees leave the area to wash, change cartridges or if they detect break-through or resistance.

Storage

All respirators shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture and damaging chemicals. They shall be packed or stored to prevent deformation of the facepiece and exhalation valve. In addition to these requirements, emergency respirators shall be:

» Kept accessible to the work area

» Stored in compartments or in covers that are clearly marked as containing emergency respirators

» Stored in accordance with any applicable manufacturer instructions

Inspection

Barnhill Contracting Company shall ensure that respirators are inspected as follows:

» All respirators used in routine situations shall be inspected before each use and during cleaning

» All respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with the manufacturer's recommendations, and shall be checked for proper function before and after each use

» Emergency escape-only respirators shall be inspected before being carried into the workplace for use

The company shall ensure that respirator inspections including the following:

» A check for respirator function, tightness of connections and the condition of the various parts including, but not limited to, the facepiece, head straps, valves, connecting tube, cartridges, canisters or filters

» A check of elastomeric parts for pliability and signs of deterioration

Self-contained breathing apparatuses shall be inspected monthly. Air and oxygen cylinders shall be Maintained in a fully charged state and shall be recharged when the pressure falls to 90% of the manufacturer's recommended pressure level. The company shall determine that the regulator and warning devices function properly.

For respirators maintained for emergency use, the company shall:

» Certify the respirator by documenting the date the inspection was performed, the name (or signature) of the person who made the inspection, the findings, required remedial action and a serial number or other means of identifying the inspected respirator

» Provide this information on a tag or label that is attached to the storage compartment for the respirator, is kept with the respirator, or is included in inspection reports stored as paper or electronic files. This information shall be maintained until replaced following a subsequent certification

Breathing Air Quality & Use

Barnhill Contracting Company will provide employees using atmosphere-supplying respirators (supplied-air and SCBA) with breathing gases of high purity. The company shall ensure that compressed air, compressed oxygen, liquid air and liquid oxygen used for respiration accords with the following specifications:

» Compressed and liquid oxygen shall meet the US Pharmacopoeia's requirements for medical and breathing oxygen

» Compressed breathing air shall meet at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air G-7.1-1989, to include:

    * Oxygen content (v/v) of 19.5 - 23.5%

    * Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less

    * Carbon monoxide (CO) content of 10 ppm or less

    * Carbon dioxide content of 1,000 ppm or less

Lack of Noticeable Odor

The company shall ensure that compressed oxygen is not used in atmosphere supplying respirators that have previously used compressed air; oxygen concentrations greater than 23.5% are used only in equipment designed for oxygen service or distribution; and that cylinders used to supply breathing air to respirators meet the following requirements:

» Tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR Part 173 and Part 178)

» Cylinders of purchased breathing air have certificate of analysis from the supplier that the breathing air meets the requirements for Grade D Breathing Air

» The moisture content in the cylinder does not exceed a dew point of -50° F (-45.6° C) at 1 atmosphere pressure

Program Evaluation

Barnhill Contracting Company will conduct evaluations of the workplace to ensure that the written Respiratory Protection Program is being properly implemented, and to consult employees to ensure that they are using respirators properly.

Evaluations of the workplace will be conducted by the Safety Director, as necessary but not less than every 30 days, to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective.

The company shall regularly consult employees required to use respirators to assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed include, but are not limited to:

» Respirator fit (including the ability to use the respirator without interfering with effective workplace performance)

» Appropriate respirator selection for the hazards to which the employee is exposed

» Proper respirator use under the workplace conditions the employee encounters

» Proper respirator maintenance

Record Keeping

The company will establish and retain written information regarding medical evaluations, fit testing and the respirator program. This information will facilitate employee involvement in the respirator program, assist the company in auditing the adequacy of the program and provide a record for compliance determinations by OSHA.

Medical Evaluation

Records of medical evaluations required by this section must be retained and made available in accordance with 29 CFR 1910.1020.

Fit Testing

The company shall establish a record of the qualitative and quantitative fit tests administered to an employee including:

» Name or identification of the employee tested

» Type of fit test performed

» Specific make, model, style, and size of respirator tested

» Date of test

» The pass/fail results for QLFT's of the fit factor and strip chart recording or other recording of the test results for QNFT's

The fit tests shall be retained for respirator users until the next fit test is administered. Written materials required to be retained under this paragraph shall be made available upon request to affected employees and to designated representatives of the Assistant Secretary of Labor for Occupational Safety and Health, US Department of Labor and Director of the National Institute for Occupational Safety and Health.

Respiratory Hazards

Lead

» When welding, cutting, burning, grinding, chipping, abrasive blasting or rivet busting on painted surfaces, you are required to determine if the surfaces contain lead based paint. If sampling results indicated lead-based paint 0.02% lead by weight, OSHA regulations shall be followed

» An initial hazard assessment is required and shall be performed to determine worker exposure levels. The assessment involves personal sampling of a representative group of workers performing different tasks. During the initial exposure assessment, workers shall wear protective clothing and the proper respiratory protection until the results of the assessment are known

» If trade/subcontractors are performing this work, the subcontractor shall provide copies of sampling results to Barnhill Contracting Company

» Area sampling of a work area shall not be used to determine worker exposure levels

If sampling results indicate the exposure limits are above 30 ug/m3, but below 50 30 ug/m3, the following is required:

» Written compliance plan

» Medical surveillance (blood level and ZPP)

» Personal monitoring

» Hazard communication training for lead

If sampling results are above 50 ug/m3, the following is required:

» Written compliance plan

» Engineering controls

» Respiratory protection

» Protective clothing

» Medical surveillance

» Clean change rooms and showers

» Clean lunchrooms

» Warning signs

» Training

Workers shall be notified in writing of their blood and/or personal monitoring results within five working days after the results are known.

Silica

Employees who perform any of the following work tasks shall be protected from exposure to silica dust:

» Chipping, hammering or mixing of refractory

» Abrasive blasting using silica sand as a blasting medium

» Abrasive blasting of concrete, regardless of the type of medium

» Sawing, hammering, drilling, grinding or chipping of concrete or masonry products

» Chipping, hammering or mixing of concrete grout

» Demolition of concrete or masonry structures

» Dry sweeping or compressed air blowing of concrete, masonry, rock or sand dust

» Employees performing any of the above tasks, or who could be exposed to silica dust, shall receive hazard communication training on silica

Acceptable engineering controls will be used when exposure to silica is likely. Examples of acceptable engineering controls include:

» Substitute blasting medium for less hazardous material with less than 1% silica

» Maintain an effective dust control program

» Use internal blast-cleaning machines

» Wet saw

» Use water through the drill stern

When acceptable engineering controls cannot be used, workers will wear respiratory protection, protective coveralls and gloves.

Employees shall follow these safe work rules when exposed to silica:

» Do not eat, drink or use tobacco products in areas where silica dust is present

» Always wash hands and face before eating, drinking or using tobacco products

First-line supervisors should consult their safety representative or Safety Director for further assistance.

07 FALL PROTECTION

Fall Protection & Prevention

Barnhill Contracting Company expects 100% continuous fall protection whenever the potential exists for a worker to be exposed to fall hazards of six feet or greater. All employees, trade contractors, vendors or other third-party individuals will take all practical measures to eliminate, prevent and control fall hazards. Trade and subcontractors will maintain records of fall protection training for review by Barnhill Contracting Company.

All work will be planned with the intent to eliminate identified fall hazards. If a fall hazard cannot be eliminated, then effective means of fall protection will be implemented. Effective means of fall protection includes:

» Guardrail systems

» Safety netting

» Floor and wall coverings

» Positioning device systems

» Controlled access zones

» Protection from falling objects

» Personal fall arrest systems consisting of ANSI-certified full-body harness, lanyard with shock absorbing device or retractable lifeline, locking snap hook and properly engineered anchorage point

Workers who are exposed to fall hazards that cannot be eliminated will be uniformly equipped, trained and given periodic refresher training in fall protection at specific intervals to minimize the adverse effects of accidental falls.

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» Workers will not tie off to a perimeter cable or wire rope handrail unless the perimeter railing or handrail has been properly engineered as a horizontal lifeline. Ropes will not be used as horizontal lifelines. Lanyards will not be tied back to themselves unless the lanyard is specifically manufactured for that use

» Workers who are exposed to falls six feet or greater while working from elevated decks, elevated platforms, stairwells, reinforced steel or any other elevated areas or equipment will be protected from falls

» Workers are not required to tie off on properly constructed scaffold, elevated decks and elevated platforms that have perimeter guardrail systems consisting of top rail and mid rail. If the perimeter guardrail system must be removed, workers will wear full-body harnesses with double shock absorbing lanyards

» Floor and wall coverings will be guarded or covered and properly marked "COVER. DO NOT REMOVE." When no other practical means of fall protection can be used, workers will be tied off at all times using a full-body harness, shock absorbing lanyards or retractable lanyards

» Workers will be protected from falling objects from above

Fall Prevention and Protection for Employees Working Over or Around Water

Employees working over or near water, whether the danger of drowning exists, shall be provided with a US Coast Guard-approved life jacket or buoyant work vests.

» Prior to, and after each use, the buoyant work vest or life jacket will be inspected for defects which alter their strength of buoyancy

» Damaged life jackets or buoyant work vests must be labeled "DEFECTIVE" and discarded immediately

» Ring buoys with at least 90 feet of line will be readily available for emergency rescue operations. The distance between ring buoys will not exceed 200 feet

» At least one lifesaving skiff will be immediately available at locations where employees are working over or adjacent to water

Training Program Overview

Barnhill Contracting Company will provide a training program for each employee who might be exposed to fall hazards. The program shall enable each employee to recognize the hazards of falling and shall train each employee in the procedures to be followed in order to minimize these hazards.

The company shall verify the compliance of employee training described in the paragraph above and will document the training with written certification records including:

» Name or other identity of the employee trained

» Date of training

» Signature of the company's "competent person" who conducted the training.

If the company relies on training conducted by another employer or training completed prior to

the effective date of this section, the certification record shall indicate the date that the company determined the prior training was adequate rather than the date of actual training. The latest training certification shall be maintained in the records of Barnhill Contracting Company.

Re-Training

When the company has reason to believe that any affected employee who has already been trained does not have the understanding and skill required, the company shall re-train each such employee. Circumstances where re-training is required include, but are not limited to, situations where:

» Changes in the workplace render previous training obsolete

» Changes in the types of fall protection systems or equipment to be used render previous training obsolete

» Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill

Employee Exposure

The company's fall protection safety starts with an inspection every week and at every new jobsite to determine if the walking/working surfaces on which its employees are to work will have the strength and structural integrity to support employees safely. Employees are authorized to work only on approved surfaces and only when those surfaces have the required strength and structural integrity.

Unprotected Sides & Edges

Each employee on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge which is six feet (1.8 m) or above a lower level shall be protected from falling by the use of guardrail systems, safety net systems or personal fall arrest systems.

Other Measures

The company's Fall Protection Plan may include a written discussion of other measures that might be implemented to reduce or eliminate the fall hazard for workers who cannot be provided with fall protection (without regards to the use of PPE) from the conventional fall protection systems. In this event, the company will document the reasons why the use of conventional fall protection systems (guardrail systems, safety net systems or personal fall arrest systems) is feasible of why their use would create a greater hazard. For example, Barnhill Contracting Company shall discuss the extent to which scaffolds, ladders or vehicle mounted work platforms can be used to provide a safer working surface and thereby reduce the hazard of falling.

Plan Qualifications

The Fall Protection Plan shall be prepared by an OSHA-defined, qualified "competent person" with each plan developed specifically for each jobsite and systematically maintained to be up to date. The "competent person" must be qualified in the following areas:

» Nature of fall hazards in the work area

» Correct procedures for erecting, maintaining, disassembling and inspecting the fall protection systems to be used

» Use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones and other equipment to be used

» Limitations on the use of mechanical equipment during the performance of roofing work or on low-sloped roofs

» Correct procedures for the handling and storage of equipment and materials and the erection of overhead protection

» Role of employees in fall protection plans

» Standards contained in this section

Controlled Access Zones

The Fall Protection Plan will also identify each location where conventional fall protection methods cannot be used. These locations shall then be classified as controlled access zones. Controlled access zones and their use shall conform to the following provisions:

» When used to control access to areas where leading edge and other operations are taking place the controlled access zone shall be defined by a control line or by any other means that restricts access

» When control lines are used, they shall be erected not less than six feet (1.8 m) nor more than 25 feet (7.7 m) from the unprotected or leading edge, except when erecting precast concrete members

» When erecting precast concrete members, the control line shall be erected not less than six feet (1.8 m) nor more than 60 feet (18 m) or half the length of the member being created, whichever is less, from the leading edge

» The control line shall extend along the entire length of the unprotected or leading edge and shall be approximately parallel to the unprotected or leading edge

When and where there has been no other alternative methods implemented, the company will implement a safety monitoring system.

Designated Safety Monitor

The company will designate a person whose qualifications meet the OSHA definition of "competent person" to be the "safety monitor" for the company. He/she will monitor the safety of other employees. The company will take an active part to ensure the "safety monitor" complies with the following:

» Is competent to recognize fall hazards

» Warns the employee when it appears the employee is unaware of a fall hazard or is acting in an unsafe manner

» Is on the same walking/working surface and within visual sighting distance of the employee being monitored

» Is close enough to communicate orally with the employee

» Shall not have any other responsibilities which could take the monitor's attention from the monitoring function

Accident Procedures

In the event an employee falls, or some other related, serious incident occurs (e.g. a near miss) the company shall investigate the circumstances of the fall or other incident to determine if the Fall Protection Plan needs to be changed (e.g. new practices, procedures or training) and shall implement those changes to prevent similar types of falls or incidents.

American National Standards Institute (ANSI) & American Society for Testing and Materials (ASTM) Requirements

Barnhill Contracting Company recommends that fall arrest and restraint equipment be used in accordance with the manufacturer's instructions. When purchasing equipment and raw materials for use in fall protection systems, applicable ANSI and ASTM requirements should be met.

Selection & Equipment Use

The kind of personal fall arrest system selected should match the particular work situation, and any possible free fall distance should be kept to a minimum. Consideration should be given to the particular work environment.

For example, the presence of acids, dirt, moisture, oil, grease, etc. and their effect on the system should be evaluated. Hot or cold environments may also have an adverse effect on the system. Wire rope should not be used where an electrical hazard is anticipated.

The company will have means available to promptly rescue an employee should a fall occur, since the suspended employee may not be able to reach a work level independently.

08 FIRE PROTECTION, WELDING, CUTTING & HOT WORK

Fire Prevention & Protection

Each supervisor will develop a Fire Protection Program, incorporating the following guidelines, to be followed throughout all phases of construction:

- All fire fighting equipment should be periodically inspected and maintained in operating condition in accordance with the National Fire Protection Agency (NFPA) No. 10A-1970
- Defective equipment shall be labeled "DEFECTIVE" and discarded immediately
- All employees must be trained in the proper use of a fire extinguisher
- All foremen and superintendents will have a portable fire extinguisher with a minimum rating of 1-A:10-B:C mounted in their company-owned vehicle
- All mobile equipment shall be equipped with a minimum of one portable fire extinguisher
- At least one 5-pound fire extinguisher will be provided for every 3,000 square feet of building
- There shall be no more than 100 feet of travel between fire extinguishers
- Storage sites should be kept clear of unnecessary accumulation of combustible materials
- Weeds and grass shall be kept trimmed and storage areas shall be routinely cleaned and maintained

Training & Education

The company will provide portable fire extinguishers for employee use in the workplace. The company

shall also provide an educational program to familiarize employees with the general principles of fire extinguisher use and the hazards involved with incipient stage fire fighting.

The company shall provide every employee with the training and education required in the above paragraph upon initial assignment and at least annually thereafter.

Fire Fighting Equipment

The company shall maintain and inspect, at least annually, fire fighting equipment to assure the safe operational condition of the equipment. Portable fire extinguishers and respirators shall be visually inspected at least monthly.

The company shall record the annual maintenance date and retain this record for one year after the last entry of the life of the shell, whichever is less.

Fire extinguishers which have been listed or approved by a nationally-recognized testing laboratory shall be used to meet the requirements of this section.

Fire Watch Training

The company's fire watchers will have fire extinguishing equipment readily available and be trained in its use. They will be familiar with the facility's sounding alarm in the event of a fire.

The company's safety program requires that cutters or welders and their supervisors be suitably trained in the safe operation of their equipment and the safe use of the process.

Fire Hazards

If the object to be welded or cut cannot be readily moved, all movable fire hazards in the vicinity will be taken into a safe place.

Guards

If the object to be welded or cut cannot be moved and if all the fire hazards cannot be removed, then guards will be used to confine the heat, sparks and slag, and to protect the immovable fire hazards.

Restrictions

If the requirements stated above cannot be followed then welding and cutting will not be performed.

Fire Watch

Fire watchers will be required whenever welding or cutting is performed in locations where other than minor fire might develop, or any of the following conditions exist:

» Appreciable combustible material, in building construction or contents, is closer than 35 feet (10.7 m) to the point of operation

» Appreciable combustibles are more than 35 feet (10.7 m) away but are easily ignited by sparks

» Wall or floor openings within a 35-foot (10.7 m) radius expose combustible material in adjacent areas including concealed spaces in walls or floors

- Combustible materials are adjacent to the opposite side of metal partitions, walls, ceilings, or roofs and are likely to be ignited by conduction or radiation
- Firewatchers will watch for fires in all exposed areas, try to extinguish them only when obviously within the capacity of the equipment available, or otherwise sound the alarm
- Suitable fire extinguishing equipment will be maintained in a state of readiness for instant use. Such equipment may consist of pails of water, buckets of sand, hose or portable extinguishers depending upon the nature and quantity of the combustible material exposed
- A fire watch must be maintained for at least a half hour after completion of welding or cutting operations to detect and extinguish possible smoldering fires

Authorization

Before cutting or welding is permitted, the area will be inspected by the designated site safety person and a written hot work permit will be used to authorize welding and cutting operations. The Safety Director will designate precautions to be followed in granting authorization to proceed preferably in the form of a written permit.

Work in Confined Spaces

Ventilation

Ventilation is a prerequisite to working in confined spaces. Ventilation requirements can be found within this program.

Defined

Confined space, as used herein, is intended to mean a relatively small or restricted space such as a tank, boiler, pressure vessel, or small compartment of a ship.

Securing Cylinders & Machinery

When welding or cutting is performed in any confined spaces, the gas cylinders and welding machines will be left on the outside. Before operations begin, heavy portable equipment mounted on wheels will be securely blocked to prevent accidental movement.

Lifelines

Where a welder must enter a confined space through a manhole or other small opening, means will be provided for quickly removing the welder in case of an emergency. When safety belts and lifelines are used for this purpose they will be so attached to the welder's body that their body cannot be jammed in a small exit opening. An attendant with a pre-planned rescue procedure will be stationed outside to observe the welder at all times and be capable of putting rescue operations into effect.

Electrode Removal

When arc welding is to be suspended for any substantial period of time, such as during lunch or overnight, all electrodes will be removed from the holders and the holders carefully located so that accidental contact cannot occur and the machine disconnected from the power source.

Gas Cylinder Shutoff

In order to eliminate the possibility of gas escaping through leaks of improperly closed valves, when gas welding or cutting, the torch valves will be closed and the fuel-gas and oxygen supply to the torch positively shut off at some point outside the confined area whenever the torch is not used for substantial period of time, such as during lunch hour or overnight. Where practical, the torch and hose shall also be removed from the confined space.

Warning Sign

After welding operations are completed, the welder shall mark the hot metal or provide some other means of warning other workers.

Health Protection & Ventilation

Evolution

Procedures will be developed when evolution of hazardous fumes, gases or dust according to the metals involved, are possible. Any welding, cutting or burning of lead base metals, zinc, cadmium, mercury, beryllium or exotic metals or paints not listed will have proper ventilation or respiratory protection.

Maximum Allowable Concentration

Local exhaust or general ventilating systems will be provided and arranged to keep the amount of toxic fumes, gases or dusts below the maximum allowable concentration as specified in 29 CFR 1910.94 Ventilation.

Precautionary Labels

A number of potentially hazardous materials are employed in fluxes, coatings, coverings and filler metals are released to the atmosphere during welding and cutting. These include but are not limited to the materials itemized in this section. The suppliers of welding materials shall determine the hazard, if any, associated with the use of their materials in welding, cutting, etc.

All filler metals and fusible granular materials will carry the following notice, as a minimum, on tags, boxes and other containers:

CAUTION
WELDING MAY PRODUCE FUMES AND GASES HAZARDOUS TO HEALTH
AVOID BREATHING THESE FUMES AND GASES
USE ADEQUATE VENTILATION
ANSI Z.49.1-1967

Brazing (welding) filler materials containing cadmium in significant amounts shall carry the following notice on tags, boxes or other containers:

WARNING
CONTAINS CADMIUM - POISONOUS FUMES MAY BE FORMED ON HEATING
DO NOT BREATHE FUMES
USE ONLY WITH ADEQUATE VENTILATION SUCH AS FUME COLLECTORS, EXHAUST VENTILATORS OR AIR-SUPPLIED RESPIRATORS
ANSI Z49.1-1967

Airline Respirators

In circumstances for which it is impossible to provide such ventilation, airline respirators or hose masks approved for this purpose by the NIOSH under 42 CFR 1910.84 must be used.

Self-Contained Units

In areas immediately hazardous to life, a full-facepiece, pressure-demand, self-contained breathing apparatus or a combination full-facepiece, pressure-demand supplied-air respirator with an auxiliary, self-contained air supply approved by NIOSH under 42 CFR 1910.84 must be used.

Local Ventilation

In confined spaces or indoors, welding or cutting operations involving metals containing lead, other than as an impurity, or metals coated with lead-bearing materials, including paint, must be performed using local exhaust ventilation or airline respirators. Such operations, when performed outdoors, must be done using respirators approved for this purpose by NIOSH under 42 CFR1910.84. In all cases, workers in the immediate vicinity of the cutting operation must be protected by local exhaust ventilation or airline respirators.

Beryllium

Welding or cutting indoors, outdoors or in confined spaces involving beryllium-containing base or filler metals will be performed using local exhaust ventilation and airline respirators unless atmospheric tests under the most adverse conditions have established that the workers' exposure is within the acceptable concentrations defined by 29 CFR 1910.1000. In all cases, workers in the immediate vicinity of the welding or cutting operations will be protected as necessary by local exhaust ventilation or airline respirators.

Cadmium

In confined spaces or indoors, welding or cutting operations involving cadmium-bearing or cadmium-coated base metals must be performed using local exhaust ventilation or airline respirators unless atmospheric tests under the most adverse conditions show that employee exposure is within the acceptable concentrations specified by 29 CFR 1910.1000. Such operations, when done outdoors, must be done using respirators, such as fume respirators, approved for this purpose by NIOSH under 42 CFR 1910.84.

Welding (brazing) involving cadmium-bearing filler metals must be performed using ventilation if the work is to be done in a confined space.

First Aid Equipment

First aid equipment will be available at all times, including an OSHA-certified First Aid Kit on every jobsite. All injuries will be reported as soon as possible for medical attention. First aid will be rendered until medical attention can be provided.

Oxygen/Fuel Welding Cutting

Workmen in charge of the oxygen or fuel-gas supply equipment, including generators and oxygen or fuel-gas distribution piping systems will be instructed and judged competent by the company for this important work before being left in charge.

Arc Welding & Cutting

Instruction

Workmen designated to operate arc welding equipment will be properly instructed and qualified to operate such equipment as specified within this program.

Operation

Workmen assigned to operate or maintain arc welding will be trained on the OSHA Standard 1910.254 Arc Welding and Cutting on the General Requirements of Welding, Cutting and Brazing of the OSHA Standard 1910.253 a, b and c.

Maintenance

The operator will report any defective equipment or safety hazard to his/her supervisor and to the Safety Director. The use of the equipment will be discontinued until its safety has been assured. Repairs will be made only by the company's qualified personnel.

Machines that become wet will be thoroughly dried and tested before being used. Cables with damaged insulation or exposed bare connectors will be replaced. Joining lengths of work and electrode cables will be done by the use of connecting means specifically intended for this purpose. The connecting means will have adequate insulation for the service conditions.

Compressed Gas Cylinders Program

Gas identification should be stenciled or stamped on the cylinder or label. No compressed gas cylinder should be accepted for use that does not legibly identify its content by name.

Visual Inspections of Cylinders

The company will determine that compressed gas cylinders under the company's control are in a safe condition to the extent that this can be determined by visual inspection. Visual and other inspections shall be conducted as prescribed in the Hazardous Materials Regulations of the Department of Transportation (49 CFR parts 171-179 and 14 CFR part 103). Where those regulations are not applicable, visual and other inspections shall be conducted in accordance with the Compressed Gas Association.

Removing Cylinder Caps

When cylinder caps cannot be removed by hand, cylinders should be tagged "DO NOT USE" and returned to the designated storage area for return to vendor.

Proper Use of Compressed Gas Cylinders

» Valves must be closed when cylinders are not in use

» Cylinders shall not be used as rollers or supports

» Cylinders shall not be placed where they can come in contact with electrical circuits

» Cylinders must be protected from sparks, slag or flame from welding, burning or cutting operations

» Empty cylinders must be returned to designated storage areas as soon as possible after use

Use and Inspection of Proper Regulators of Tools

Cylinders must be equipped with the correct regulators. Regulators and cylinder valves should be inspected for grease, oil, dirt and solvents. Only tools provided by the supplier should be used to open and close cylinder valves.

Proper Storage of Cylinders & Storage Areas

Cylinders must be secured at all times in such a way as to avoid them being knocked over or damaged, stored in a vertical position, not in public hallways, and segregated based on contents. A minimum of 20 feet should be maintained between oxidizers and flammable, or firewalls should be erected at least five feet high, with a rating of 30 minutes. Cylinders must be protected from damage, corrosion, sunlight and kept away from heat sources. Cylinders should be capped when not in use.

Cylinders stored inside buildings shall be stored in a well-protected, well-ventilated, dry location. Cylinders shall not be kept in unventilated enclosures such as lockers and cupboards. Storage areas for full and empty cylinders must be designated and labeled. Cylinders should be stored in definitely-assigned places away from elevators, stairs and gangways.

Proper Transportation of Cylinders

Cylinders must be transported in a vertical, secured position using a cylinder basket or cart, and must not be rolled. Regulators should be removed from cylinders and cylinders should be capped before movement. Cylinders should not be dropped or struck violently and protective caps are not to be used to lift cylinders.

Training in Use, Handling & Storage of Cylinders

All employees should be trained on the use, handling and storage of compressed gas cylinders.

Handling of Leaking Cylinders

Leaking cylinders should be moved to an isolated, well ventilated area, away from ignition sources. Soapy water should be used to detect leaks. If the leak is at the junction of the cylinder valve and cylinder, do not try to repair it. Contact the supplier and ask for response instructions.

Marking Cylinders That Are No Longer Needed

Only professionals should refill cylinders and gases should never be mixed in a cylinder. The same safety precautions should be taken when handing empty cylinders as would be taken when handing full cylinders.

Inspections of Hoses and Connections

Hoses and connections should be regularly inspected for damage. Hoses should be stored in cool areas and protected from damage.

Use of Engineering Controls

Engineering controls such as emergency shutoff switches, gas cabinets and flow restrictors should be used whenever possible to control hazards. Emergency eye wash facilities should be present where corrosive gases or materials are used.

09 ELECTRICAL SAFETY

Working With or Around Electricity

Barnhill Contracting Company will ensure that electrical equipment is free from recognized hazards that are likely to cause death of serious physical harm to employees. The following guidelines shall be followed when using electrical equipment:

» Ground-fault circuit interrupters or an Assured Equipment Grounding Program shall be used to protect employees on all construction sites (refer to end of section for the Assured Equipment Grounding Conductor Program)

» Extension cord sets used with portable electrical tools and appliances shall be a 3-wire type designed for hard and extra-hard usage

» Each cord set, attachment cap, plug and receptacle of cord sets and any equipment connected by cord and plug, except cord sets which are fixed and not exposed to damage, shall be visually inspected before each day's use for external defects such as deformed or missing pins or insulation damage, and for indication of possible internal damage. Worn or frayed electrical cords shall not be used

» Equipment that is damaged shall not be used until it is properly repaired

» Flexible cords shall only be used in continuous lengths without splices or repair. Hard service flexible cords No. 12 or larger may be repaired if spliced so that the splice retains the insulation, outer sheath properties and usage characteristics of the cord being spliced

» Flexible cords shall be connected to devices and fittings so that the strain relief is provided to prevent pull from being directly transmitted to joints or terminal screws

» Flexible cords and cables shall be protected by bushings or fittings where passing through holes in covers, outlet boxes or similar enclosures

» Conductors entering boxes, cabinets or fittings shall be protected from abrasion, and openings through which conductors enter shall be effectively closed. Unused openings in cabinets shall be effectively closed

» All pull boxes, junction boxes and fittings will be provided with covers. If metal covers are used they shall be grounded. In energized installations each outlet box should have a cover, faceplate or fixture canopy

» Fixtures, lamp holders, lamps, rosettes and receptacles shall have no live parts normally exposed to employee contact. However, rosettes and cleat-type lamp holders and receptacles located at least eight feet above the floor may have exposed parts

» Electrical installations that are opened to unqualified people shall be made with metal-enclosed equipment or shall be in a vault or an area where access is controlled by a lock. Metal enclosed switchgear, unit substations, transformers, pull boxes, connection boxes and other similar associated equipment shall be marked with appropriate caution signs

Training

The training requirements of the company's Electrical Safety Program contained in this section apply to employees who face a risk of electric shock that is not reduced to a safe level and who are not qualified persons. Unqualified persons should be trained in, and be familiar with, any electrically-related safety practices not specifically addressed but which are necessary for their safety.

The training requirements of the company's Electrical Safety Program contained in this section do not apply to employees who are qualified to face a risk of electric shock that is not reduced to a safe level. Their training requirements are not covered in this manual and any work requiring that level of training and knowledge will be performed by a qualified person.

General

Safety-related work practices will be employed to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts, when work is performed near, or on , equipment or circuits which are, or may be, energized. The specific safety-related work practices will be consistent with the nature and extent of the associated electrical hazards.

Working On or Near Exposed De-Energized Parts

This paragraph applies to work on exposed de-energized parts or near enough to them to expose the employee to any electrical hazard they present. Conductors and parts of electric equipment that have been de-energized, but have not been locked out or tagged out in accordance with this section will be treated as live parts.

Lockout/Tagging

While any employee is exposed to contact with parts of fixed electric equipment or circuits which have been de-energized, the circuits energizing the parts will be locked out or tagged or both, in accordance with the requirements of this paragraph. Please refer to the Lockout/Tagout Program in Section 28.

Working On or Near Energized Parts

This applies to work performed on exposed live parts (involving either direct contact or by means of tools or materials) or near enough to them for employees to be exposed to any hazard present.

Working on Energized Equipment

Only qualified persons may work on electric circuit parts or equipment that have not been de-energized under the procedures in the De-energizing Equipment section of this manual. Such persons will be capable of working safely on energized circuits and will be familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools.

Overhead Lines

If work is to be performed near overhead lines, protective measures will be taken before work is started, such as providing clearance distances and lines will be de-energized and grounded. If the lines are to be de-energized, arrangements will be made with the person or organization that operates or controls the electric circuits involved to de-energize and ground them. If protective measures, such as guarding, isolating or insulating are provided, these precautions will prevent employees from contacting such lines directly with any part of their body or indirectly through conductive materials, tools or equipment.

Note: The work practices used by qualified persons installing insulating devices on overhead power transmission or distribution lines are covered by 1910.269 of this Part, not by 1910.332 - 1910.335 of this Part. Unqualified persons are prohibited from performing this type of work.

Approach Distances for Unqualified/Qualified Persons

Unqualified Employees (elevated): When an unqualified employee is working in an elevated position near overhead lines, the location shall be such that the person and the longest conductive object he/she may contact cannot come closer to any unguarded, energized overhead line than the following distances:

» Voltages to ground 50kV or below - 10 feet (305 cm)

» Voltages to ground over 50kV - 10 feet (305 cm) plus 4 inches (10 cm) for every 10kV over 50kV

Unqualified Employees (ground): Unqualified employees working on the ground in the vicinity of overhead lines may not bring any conductive object closer to unguarded, energized overhead lines than the following distances:

» Voltages to ground 50kV or below - 10 feet (305 cm)

» Voltages to ground over 50kV - 10 feet (305 cm) plus 4 inches (10 cm) for every 10kV over 50kV

Qualified Persons: When a qualified person is working in the vicinity of overhead lines, whether in an elevated position or on the ground, the person may not approach or take any conductive object without an approved insulating handle closer to exposed energy parts than shown in the following table, unless:

» The person is insulated from the energized parts (gloves, with sleeves if necessary, rated for the voltage involved are considered to be insulation of the person from the energized part on which work is performed.)

» The energized part is insulated both from all other conductive objects at a different potential and from the person

» The person is insulated from all conductive objects at a potential different from that of the energized part

Approach to Distances for Qualified Employees - Alternating Current	
Voltage Range (phase to phase)	Minimum Approach Distance
300V or less	avoid contact
over 300V, not over 750V	1 foot (30.5 cm)
over 750V, not over 2kV	1 foot, 6 inches (46 cm)
over 2kV, not over 15kV	2 feet (61 cm)
over 15kV, not over 37kV	3 feet (91 cm)
over 37kV, not over 87.5kV	3 feet, 6 inches (107 cm)
over 87.5kV, not over 121kV	4 feet (122 cm)
over 121kV, not over 140kV	4 feet, 6 inches (137 cm)

Vehicular and Mechanical Equipment

Any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines will be operated so that a clearance of ten feet (305 cm) is maintained. If the voltage is higher than 50kV, the clearance will be increased four inches (10 cm) for every 10kV over that voltage. However, under any of the following conditions, the clearance may be reduced:

If the vehicle is in transit with its structure lowered, the clearance may be reduced to four feet (122 cm). If the voltage is higher than 50kV, the clearance will be increased four feet (10 cm) for every 10kV over the voltage

If insulating barriers are installed to prevent contact with the lines, and if the barriers are rated for the voltage of the line being guarded and are not part of, or an attachment to, the vehicle or its raised structure, the clearance may be reduced to a distance within the designed working dimensions of the insulating barrier.

If the equipment is an aerial lift insulated for the voltage involved, and if the work is performed by a qualified person, the clearance (between the insulated portion of the aerial lift and the power line) may be reduced to the distance given in the table above.

Illumination

Employees may not enter spaces containing exposed energy parts, unless illumination is provided that enables the employees to perform the work safely.

Where lack of illumination of an obstruction precludes observation of the work to be performed, employees may not perform tasks near exposed energized parts. Employees may not reach blindly into areas which may contain energized parts.

Confined or Enclosed Work Spaces

When an employee works in a confined or enclosed space (such as a manhole or vault) that contains

exposed, energized parts, the company will provide, and the employee will use, protective shields, protective barriers or insulating materials necessary to avoid inadvertent contact with these parts. Doors and hinged panels will be secured to prevent them from swinging into an employee and cause the employee to contact exposed energized parts.

Conductive Materials & Equipment

Conductive materials and equipment that are in contact with any part of an employer's body will be handled in a manner that will prevent them from contacting exposed energized conductors or circuit parts. If an employee must handle long dimensional conductive objects (such as ducts and pipes) in areas with exposed live parts, the company will institute work practices (such as the use of insulation, guarding and material handling techniques) which will minimize the hazard.

Portable Ladders

Portable ladders will have non-conductive side rails if they are used where the employee or the ladder could contact exposed energized parts.

Conductive Apparel

Conductive articles of jewelry or clothing (such as watch bands, bracelets, rings, key chains, necklaces, metallized aprons, cloth with conductive thread, or metal headgear) may not be worn if they might contact exposed energized parts. However, such articles may be worn if they are rendered non-conductive by covering, wrapping or other insulating means.

Assured Equipment Grounding Conductor Program

If the company implements an assured equipment grounding conductor program, rather than a ground fault circuit interrupter program, the program should cover all cord sets, receptacles that are not part of the building or structure, and equipment connected by cord and plug which are available for use or used by employees. This program should consist of the following minimum requirements:

» A written description of this program, including the specific procedures, will be available at the jobsite for inspection and copying by the Safety Director and any affected employee

» The company will designate one or more "competent persons" as defined by OSHA Standard 1926.32(f), to implement this program

Inspection

Each cord set, attachment cap, plug and receptacle of cord sets, and any equipment connected by cord and plug, except cord sets and receptacles which are not fixed and not exposed to damage, will be visually inspected before each day's use for external defects, such as deformed or missing pins or insulation damage, and for indications of possible internal damage. Equipment found damaged or defective will not be used until repaired. All damaged equipment will be removed from service and attached with a "DO NOT USE" tag.

Testing

The following tests will be performed on all cord sets, receptacles which are not part of the permanent wiring of the building or structure, and cord and plug connected equipment required to be grounded:

» All equipment grounding conductors will be tested for continuity and will be electrically continuous

» Each receptacle and attachment cap or plug will be tested for correct attachment of the equipment grounding conductor. The equipment grounding conductor will be connected to its proper terminal

All required test will be performed:

» Before first use

» Before equipment is returned to service following any repairs

» Before equipment is used after any incident which can be reasonably suspected to have caused damage (for example, when a cord set is run over)

» At intervals not to exceed three months, except those cord sets and receptacles which are fixed and not exposed to damage will be tested at intervals not exceeding six months

Tests performed as required in this program will be recorded. This test record will identify each receptacle, cord set, and cord and plug connected equipment that passed the test and will indicate the last date it was tested or the interval for which it was tested. This record will be kept by means of logs, color coding, or other effective means and is maintained until replaced by the current record. The record is available on the jobsite for inspection by the Safety Director and any affected employee.

10 RIGGING & MATERIAL HANDLING

This program applies to rigging and slings used with other material handling equipment for the movement of material by hoisting. The types of rigging and slings covered are those made with alloy steel chain, rope, metal mesh, natural or synthetic fiber rope and synthetic web.

A competent person will be designated for rigging and hoisting operations. The competent person shall ensure that all safety measures and systems are in place, all safety procedures are followed and ensure regular inspections of the operational site and rigging equipment are made. The company has implemented and will enforce the following work practices and procedures to ensure that employees are not exposed to hazards during rigging and hoisting operations.

Rigging equipment for material handling shall be inspected prior to use on each shift and as necessary during its use to ensure that it is safe. Defective rigging equipment shall be removed from service. Barnhill Contracting Company shall ensure rigging equipment:

» Has permanently affixed and legible identification markings as prescribed by the manufacturer that indicate the recommended safe working load

» Is not loaded in excess of its recommended safe working load as prescribed on the identification markings by the manufacturer

» Not be used without affixed, legible identification markings, required by 29 CFR 1926.251 (a)(2)(1)

» Rigging or equipment, when not in use, shall be removed from the immediate work area so as not to present a hazard to employees

Material Storage

All material stored in tiers shall be stacked, racked, blocked or otherwise secured to prevent sliding, falling or collapsing. Rigging equipment (alloy steel chains, wire rope, synthetic slings) shall be inspected prior to use and durable identification permanently affixed stating size, rated capacity and sling manufacturer. Defective equipment shall be labeled "DEFECTIVE" and discarded immediately.

Wire Rope

» Wire rope slings shall have permanently affixed, legible identification markings prescribed by the manufacturer with rated load capacities

» When U-bolt wire clips are used to form eyes, Table H-20 of the 1926 OSHA Standards shall be used to determine the number and spacing of clips

» When used for eye splices, the U-bolt shall be applied so that the "U" section is in contact with the dead end of the rope. Protruding ends of strands in splices, on slings and on bridles shall be covered or blunted. Wire rope shall not be secured by knots, except on haul back lines or scrapers for pulling purposes only

» Eye splices made in any wire rope shall have a minimum of three full tucks. However, this requirement shall not preclude the use of another form of splice or connection, which can be shown to be efficient and which is not otherwise prohibited

» Except for eye splices in the ends of wires and for endless rope slings, each wire rope used in hoisting or lowering, or in pulling loads, shall consist of one continuous piece without splice

» Eyes in wire rope bridles, slings or bull wires shall not be formed by rope clips or knots

» Wire rope slings shall not be used when there are ten randomly broken wires in any one lay or five wires in one strand or one lay, or if the rope shows other signs of excessive wear, corrosion or defect

Synthetic Slings

Each synthetic sling (nylon, polyester or polypropylene) shall be marked or coded to show:

» Name and trademark of manufacturer

» Rated capacities for each type of hitch

» Type of material

Synthetic slings shall be marked "DEFECTIVE" and discarded immediately if the following conditions are present:

» Acid or caustic burns

» Melting or charring of any part of the sling surface

» Snags, punctures, tears or cuts

» Broken or torn stitches

» Distortion of fittings

11 HAND & POWER TOOLS

Hand & Power Tools

» All hand, power tools and similar equipment, whether furnished by Barnhill Contracting Company, or by the employee, shall be maintained in safe condition

» When power operated tools are designed to accommodate guards, they shall be equipped with such guards when in use. The guard may not be manipulated in any way that will compromise its integrity or compromise the protection for which it was intended. Guarding shall meet the requirements set forth in ANSI B15.1

» Impact tools such as wedges and chisels shall be kept free of mushroomed heads. The wooden handle of the tool shall be free of splinters or cracks and shall be kept tightly inserted into the tool

» Employees using hand and power tools and who are exposed to falling, flying, abrasive and splashing objects, or exposed to harmful dusts, fumes, mists, vapors or gases shall be provided with the particular personal protective equipment necessary to protect them from the hazard

» All personal protective equipment shall meet the requirements of this program and will be maintained in good working order

» All hand-held power tools shall be equipped with a constant pressure switch that will shut power off when the pressure is released

Power-Operated Hand Tools

» Pneumatic power tools shall be secured to the hose or whip by some positive means to prevent the tool from becoming disconnected

» Compressed air shall not be used for cleaning purposes, except where reduced to less than 30 psi, and then used only with proper personal protective equipment

» All hoses greater than ¼" in diameter shall have a safety device at the power supply or branch line to reduce pressure in case of hose failure

» All fuel-powered tools shall be stopped while being refueled, serviced or maintained

» All employees using abrasive wheels shall wear eye protection equipment and a face shield

Woodworking Tools

» All portable power driven circular saws will be equipped with guards above and below the base plate or shoe

Power Actuated Tools

» Only employees who possess a valid operator's card issued for the make and model of the tool are permitted to use the tool

» Only low velocity or captive studs are permitted

» Do not over load the tool

» The tool shall be tested each day before loading to ensure the device is working properly. Test the tool according to manufacturer's instruction

» Tools that are not working properly shall be labeled "DEFECTIVE" and immediately discarded

» Minimum protective gear includes safety glasses and earplugs

» Tools shall not be loaded until just prior to intended firing time

» Never point a loaded or empty tool at anyone

» Keep hands clear of the open barrel

» Never leave the tool unattended

» Never drive fasteners into very hard or brittle materials like cast iron, glazed tile, glass block, life rock or hollow tile

» No fastener shall be driven into spalled areas too close to the edge of concrete

» Always use the guard required by the manufacturer

» Plastic strips holding several charges must be placed in a metal container filled with water and a cover, if any charges have not been fired

12 TRENCHING & EXCAVATION

A "competent person" in trenching and excavation must be present at all times while employees are in the excavation. Prior to employees entering an excavation, a "competent person" in trenching and excavation shall perform an inspection to determine if the excavation is safe. Inspections shall be made after every rainstorm or any hazard-increasing occurrence.

Specific Excavation Requirements

» All slopes shall be excavated to at least the angle of repose, except those areas where solid rock allows for line drilling or pre-splitting

» Excavated or other material shall not be stored closer than two feet from the edge of any excavation

» Water shall not be allowed to accumulate in an excavation

» Banks greater than five feet high shall be shored or sloped to the angle of repose where a danger of slides or cave-ins exists as a result of excavation

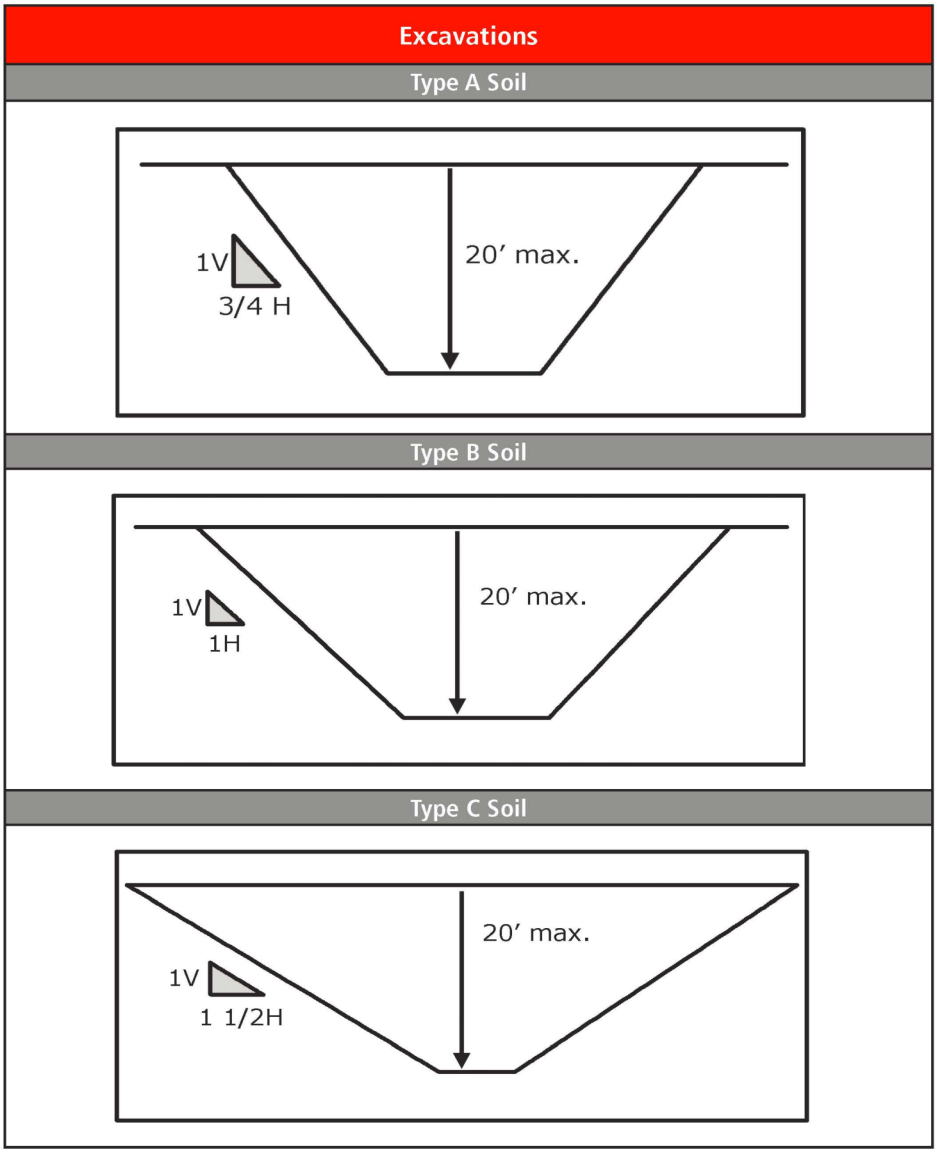
Appropriate Angles of Repose for Sloping Sides of Excavations	
Soil Class	**Angles of Repose**
Class A Soil	¾ to 1 (53°)
Class B Soil	1 to 1 (45°)
Class C Soil	1½ to 1 (34°)

Where employees are required to be in trenches or excavations four feet deep or more, ladders extending from the floor of the trench excavation to at least three feet above the top of the excavation shall be located to provide a means of exit without more than 25 feet of lateral travel or in an area where employees can walk out of the trench without using their hands for assistance.

When shielding (trench box) is used to protect employees, the tabulated data for the trench box must

be present on the job. The box cannot be any higher than two feet off the bottom of the trench, and the box must be backfilled per manufacturer's recommendations (up to a maximum of 18 inches from the top).

No person shall be permitted under loads handled by power equipment. Employees exposed to vehicular traffic shall wear an ANSI 107-2004 Class II vest.



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13 WORKING WITH CONCRETE

The following guidelines shall be followed when working with concrete:

» No loads shall be placed on a concrete structure unless a qualified person determines the structure is capable of supporting the load

» All vertical and horizontal rebar, including dowels, onto or into which someone could fall, must provide protection against impalement

» Rebar for walls, piers, columns and similar vertical structures shall be guyed and supported if the danger of collapse exists

» Wire mesh rolls shall be secured at each end to prevent recoiling

» Employees who are not essential to post tensioning operations should not be permitted behind the jack tensioning operations

» Signs and barriers must be erected to limit employees' access to post tensioning operations

» Employees shall not work under concrete buckets when the buckets are being raised or lowered

» Formwork shall support all loads placed on them

» Gloves shall be worn when handling tie wire and wire mesh

» Safety glasses, gloves, boots and long sleeves shall be worn when placing concrete

» Employees shall stay at least ten feet from overhead power lines when using long-handled tools and concrete hoses

» Employees shall not get between a concrete truck and pump, building, concrete pump, etc.

» Employees shall maintain visual contact between the driver or operator

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» Employees shall use caution when riding buggies. Routes shall be planned in advance

» Employees shall wear harness and lanyard when working six feet or higher

» Pull nails or bend them over when stacking forms

» Use a leaf blower to clean forms or decks

» Remove debris, materials (forms, braces, etc.) and scraps daily

» Scrap and debris shall be kept clear from work areas and passageways

» Aisles, walkways and exits must be kept clear of materials and equipment

» Containers shall be provided for the collection and separation of waste, trash, oil, rags and other refuse

» There must be three feet of clearance around electrical panels, portable extinguishers, exits and first aid/safety equipment

» Stored materials shall be stable, secure and have proper support

Pre-Cast Concrete

A qualified rigger who is responsible for the inspection of all rigging and hardware shall be on site to supervise the rigging of precast concrete members. Prior to unloading pre-cast concrete members, a qualified rigger will:

» Inspect all rigging and hardware

» Ensure load is stable before releasing binders

» Ensure pre-cast member is properly rigged

Placement of Concrete Members:

» Precast members are not to be moved over other workers

» Workers involved in the setting or connection of precast members will strictly adhere to the 100% fall protection policy, with no exceptions

» No workers will use their hands to reach under a precast member to adjust a shim or bearing pad

Post Tensioning Operations

» Only workers essential to the post-tensioning operations shall be permitted behind the jack

» Warning signs and barriers to limit access to the post-tensioning operations shall be erected

Caissons

When workers are required to work inside a caisson, there shall be a detailed work plan developed. The plan will include, but not be limited to:

» Type of shield to be used

» Means of access for the worker

» Method of atmosphere monitoring to be used

» Training to be provided to the worker

When workers are required to enter a caisson four feet deep or greater, the workspace will be considered a "permit-required" confined space. All requirements of the confined space section in OSHA regulations shall be strictly followed.

A guardrail system shall be erected around the caisson opening when the sleeve does not extend 44 inches above ground level.

Each worker shall receive confined space entry training and understand the contents of the written work plan.

14 EMPLOYEES WORKING ON THE GROUND

General Job Requirements

» Wear your hard hat when required

» Report any unsafe act to your immediate supervisor right away

Spotters

» Spotters are required when employees are on the ground involved in a work activity area where dump trucks or mechanized equipment are in close proximity. Spotters are required to wear a yellow/green vest, designating him/her as a spotter. The spotter will be trained in the proper signaling of backing of vehicles and equipment and shall be trained in the hazards of their environment. Note: Contact your immediate supervisor for detailed spotter procedures for grading, asphalt and military safety action plans.

General Laborers

» Always watch for moving machines and stay clear

» Avoid injury by avoiding a job that is too strenuous for one person

» Make sure handles on shovels and all tools are in good condition

Site Clearing Equipment

» All equipment to be used in site clearing shall comply with OSHA Standards 29 CFR 1910.266 - Logging Operations

» Site clearing equipment manufactured after August 1, 1996 shall have a cab that is fully enclosed with mesh material with openings no greater than two inches at its least dimension. The cab may be enclosed with other materials where the employer demonstrates such materials provide equivalent protection and visibility. **Exception:** Equivalent visibility is not required for the lower portion of the cab where there are control panels or similar obstructions in the cab, or where visibility is not necessary for safe operation of the machine

» The protective canopy shall be constructed to protect the operator from injury from falling trees, limbs, saplings, or branches which might enter the compartment side areas and from snapping winch lines or other objects

Site Clearing Laborers

» Employees engaged in site clearing shall be protected from toxic plants and instructed in the available first aid treatments

» Employees exposed to falling or flying objects shall wear a hardhat

» Each employee that uses a chainsaw shall be trained in the safe use of the equipment and wear proper personal protection consisting of chaps, hardhat, ear muffs, eye and face protection

15 MOTOR VEHICLES & MECHANIZED EQUIPMENT

Mobile Equipment Program

Operation of Mobile Equipment

Only authorized employees shall be allowed to operate mobile equipment. Authorization to operate mobile equipment will be issued to employees qualifying under appropriate training and proficiency testing.

Pre-Shift Inspections

At the beginning of each shift, the operator shall inspect and check the assigned equipment, reporting immediately to his/her supervisor any malfunction of the clutch or of the braking system, steering, lighting, or control system and locking/tagging out the equipment if necessary.

Passengers Riding Equipment

Unauthorized personnel shall not be permitted to ride on equipment unless it is equipped to accommodate riders safely.

Back-Up Alarm

The operator shall ensure the warning signal is operating when the equipment is backing up. It is the responsibility of the company to purchase and properly maintain working back up alarms for mobile equipment.

Proper Access

The operator shall use access provided to get on or off of equipment. Do not jump to the ground.

Eye Protection

No operator shall operate mobile equipment without the protection of an enclosed cab or approved eye protection.

Seat Belts

Before starting the engine, the driver shall fasten seat belts and adjust them for a proper fit.

Proper Equipment Use

The operator shall not use, or attempt to use, any vehicle in a manner for any purpose other than for which it is designated.

The operator shall not load the vehicle/equipment beyond its established load limit and shall not move loads which because of the length, width or height have not been centered and secured for safe transportation.

Fueling Procedures

The operator of a gasoline or diesel vehicle shall shut off the engine before filling the fuel tank and shall see that the nozzle of the filling hose makes contact with the filling neck of the tank. No one shall be on the vehicle during fueling operations except as specifically required by design. There shall be no smoking or open flames in the immediate area during fueling operation.

General Job Requirements

» Wear your hardhat when required

» Report any unsafe act to your direct supervisor immediately

» Report any machine malfunction immediately

» Never carry additional people on the machine unless there are additional seats with seat belts

» Remove master key from equipment after finishing work

» Stand back from cable when pulling equipment

» Keep grease off equipment where you have to walk

Motor Vehicles

» All vehicles shall have a service brake, emergency brake, parking brake, back-up alarm, rollover protection and seat belts.

» Employees shall not use any mechanized equipment that has an obstructed view to the rear unless the equipment has a reverse signal alarm or is backed up using a spotter

» All vehicles with cabs shall be equipped with windshields and powered wipers

» Cracked and broken glass shall be replaced

» All haulage vehicles, with payload loaded by crane or similar means, shall have an adequate cab shield to protect the operator

» Tools and materials shall be secured when transported in the same compartment with employees

Dump Trucks

» Refer to Dump Truck Safety Policy

» Ensure all safety devices on dump trucks function properly

» Ensure back-up alarms are audible above the surrounding noises

» Seat belts must be worn

» Sound the horn prior to movement in any direction while on a worksite where workers are on the ground

» A spotter, wearing a yellow/green vest to distinguish him/her from other employees, shall be used to safely back the dump truck to its desired location when there are workers in the immediate area

» Ensure tailgates are open before dumping

» Do not dump trucks when sitting one sided

» Park in level place or against a bank. This is especially true for rear-dumps

» Do not back rear-dumps down steep grade, especially if it can be driven down the grade

» Give loaded trucks the right of way

» A courteous driver is a safe driver

Articulated Dump Trucks

» Always face the machine and use steps and grab handles when mounting and dismounting the machine. Always have three-point contact

» Only operate the machine while you are in the seat. The seat belt must be fastened prior to operation

» Do not allow riders on the machine unless there is an additional seat and seat belt

» Do not get too close to the edge of cliffs, excavations or overhangs

» Keep the machine straight and level when loading and dumping

» The operator shall stay in the cab while machine is being loaded

» All six wheels must be in contact with firm ground. Dumping without firm ground support under the rear wheels changes the balance of the machine. It is possible for the tractor and/or trailer to overturn if dumping incorrectly

» Avoid dumping while on an incline. Use caution if dumping the load while on a shallow slope

» Park on a level surface. If you must park on a grade, block the machine's wheels

» When parking the machine, place transmission control lever in NEUTRAL position and engage the parking brake

Scrapers

» Lock transmission in neutral when getting off the machine

» Lower the bowl to the ground before getting off the machine

» Do not reverse the machine unless you can see behind it or have someone guiding you

» Drain the air tank daily so that water will not get in the tank and cause brakes to fail

» There is a risk of the machine over-turning on steep slopes or when driving over bumps

» Be conscious of the employees working on the ground

» Do not spin tires

» Stay away from the edge of the fill when driving down haul roads

» Always keep the bowl as close to the ground as possible

» Loaded scraper should have the right of way

» Seat belts shall be worn at all times

Dozers

» Throttle the engine back to idle, lower blade, and place transmission control lever in neutral position when getting off the machine

» Look before backing

» Lock brakes if the machine is on a hill and remove master key

» Do not leave the machine on a slope

» Seat belts shall be worn at all times

Rubber Tire Loaders

» Lower the bucket to the ground when not in use and park on level ground when possible

» Do not allow anyone access to areas where there is no clearance when machine is operating or when the machine is being serviced

» Check hydraulic hose and fitting for wear and leaks daily

» Carry bucket at a safe height so the machine is not top heavy

» Seat belts shall be worn at all times

Motorgraders

» When mounting and dismounting the machine, always face the machine and dismount where steps and/or handholds are provided. Always use three-point contact

» Only operate the machine while you are in the seat. The seat belt must be fastened prior to operation

» Do not allow riders on the machine unless there is an additional seat with seat belt

» Do not drive the machine near an overhang, edge of a cliff, or near the edge of an excavation

» Avoid any ground conditions that could cause tip over, such as working on hills, banks or on slopes

» Avoid operating machine across the slope-operate machine up and down slopes when possible

» Always look before backing. If you are unsure of whether the path is clear, get out and look

» Park on a level surface. If you must park on a grade, block the machine's wheels

» When parking machine, place transmission control lever in neutral position and engage the parking brake

» Lower the blade and attachments to the ground

Excavators

» When mounting and dismounting the machine, always face the machine and dismount where steps and/or handholds are provided. Always use three-point contact

» Only operate the machine while you are in the seat. The seat belt must be fastened prior to operation

» When the machine is moving, watch the clearance of the boom. Uneven ground can cause the boom to move in all directions

» Do not allow riders on the machine unless additional seats with seat belts are provided

» Hold attachments (bucket) approximately 15" above ground during travel

» Be careful to avoid any ground condition that could cause the machine to tip. Tipping can occur when you work on hills, banks or slopes

» Avoid operating machine across the slope-operate machine up and down slopes when possible

» Do not overload the machine beyond capacity

» Before operating the machine, check for locations of buried pipes and cables

» Always stay at least 10' away from any overhead electrical lines

» Park the machine on a level surface. If you must park on a grade, chock the tracks of the machine

» Always lower bucket to the ground or block up the bucket before leaving operator's station

» Always move the hydraulic activation control lever to the LOCKED position before shutting off the engine or immediately after the engine stops running

Rollers

» Always mount and dismount the machine where steps and/or handholds are provided. Always use three-point contact

» Always wear seat belt if the machine has rollover protective structure (ROPS)

» Operate the machine only while seated

» Do not allow riders on the machine unless additional seat and seat belt are provided

» Stay an adequate distance from the edge of cliffs, overhangs and slide areas

» Avoid operating machine across the slope - operate machine up and down slopes when possible

» Always look before backing

» Always park machine on a level surface. If it is necessary to park on a grade, block the machine and engage the parking brake

Pre-Shift Vehicle & Equipment Checks

All vehicles and equipment in use shall be checked at the beginning of each shift to ensure that the following parts, equipment, and accessories are in safe operating condition and free of apparent damage that could cause failure while in use:

» Parking system (hand brake)

» Emergency stopping system (brakes)

» Tires

» Horn

» Steering mechanism

» Coupling devices

» Seat belts

» Operating controls

» Safety devices

All defects shall be corrected before the vehicle or equipment is placed in service. These requirements also apply to equipment such as lights, reflectors, windshield wipers, defrosters, fire extinguishers, etc., where such equipment is necessary.

Employees operating motor vehicles or mechanized equipment shall:

» Complete a vehicle/equipment inspection checklist at the start of each shift and give it to the supervisor

» Wear seat belt at all times. Passengers in trucks will ride in the cab

» Only authorized persons shall operate equipment, vehicles and cranes

» All earth moving or compacting equipment which has an obstructed view to the rear, is not to be used in reverse gear unless the equipment has an operational, reverse signal alarm distinguishable from the surrounding noise level

Equipment

At night, any equipment left unattended adjacent to highways shall be clearly marked with reflectors to identify the location of the equipment. A safety tire rack, cage or equivalent protection shall be provided and used when inflating, mounting or dismounting tires installed on split rims. Bulldozer and scraper blades and similar equipment shall be either fully lowered or blocked when being repaired or when not in use. All cab glass shall be constructed of safety glass or equivalent and shall introduce no visible distortion.

Mobile Cranes

Using Cranes

The company will ensure that equipment will not be assembled or used unless ground conditions are firm, drained and graded to a sufficient extent so that, if necessary with the use of supporting materials, the equipment manufacturer's specifications for adequate support or degree of level of the equipment are met.

Manufacturer's Instructions

The company will ensure employees follow the manufacturer's procedures and prohibitions when assembling and disassembling equipment.

Competent/Qualified Person

The contractor that is responsible for the crane will designate a competent and qualified person who will be responsible for directing the assembly and disassembling of the equipment.

Pre-Operation Hazard Assessment

The company will conduct a pre-operation hazard assessment to identify the work zone and to determine if any part of the equipment could reach closer than 20 feet to a power line. The work zone will be identified by demarcating boundaries such as flag and range limiting devices, or defining the work zone as 360° around the equipment up to a maximum working radius.

If it is determined that any part of the equipment, load line or load could get closer than 20 feet to a power line then at least one of the following measures will be taken:

» Ensure the power lines have been de-energized and visibly grounded.

» Ensure no part of the equipment, load line or load gets closer than 20 feet to the power line.

Determine the line's voltage and minimum approach distance permitted in the following table:

Minimum Clearance Distances	
Voltage (nominal kV, alternating current)	Minimum Clearance Distance
Up to 50kV	10 feet
Over 50kV - 200kV	15 feet
Over 200kV - 350kV	20 feet
Over 350kV - 500kV	25 feet
Over 500kV - 750kV	35 feet
Over 750kV - 1000kV	45 feet
Over 1000kV	As established by the by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution.

Visual Inspections

The company will ensure a competent person will document visual inspection of equipment prior to each shift. The inspection will consist of observing for apparent deficiencies. Inspection items will include control mechanisms, pressurized lines, hooks and latches, wire rope, electrical apparatus, tires (when used) and ground conditions.

Monthly Inspections

The company will ensure equipment is inspected monthly by a competent person and inspections will be documented. Documentation will include the following:

» Items checked

» Results of inspections

» Name and signature of inspector

Safety Devices

Safety devices are required to be on all equipment, therefore, the company will ensure safety devices are in proper working order before operations begin. If any of the devices are not in proper working order, the equipment will be taken out of service and operations will not resume until the device is working properly again. Examples of safety devices include crane level indicator, boom stops, jib stops, foot pedal brake locks, horns, etc.

Manufacturer Procedures

The company will ensure all compliance with manufacturer procedures applicable to the operational functions of the equipment, including its use with attachments.

Operators will have access to procedures applicable to the operation of the equipment. Procedures include rated capacities (load charts), recommended operating speeds, special hazard warnings, instructions and operator's manual. These shall be available in the cab at all times for employee access.

Stop Work Authority

Whenever there is a safety concern, the operator will have authority to stop and refuse to handle loads until a qualified person has determined that safety has been assured.

Signal Person

The company will ensure a signal person is provided if:

» The point of operation is not in full view of the operator

» The view is obstructed when the equipment is traveling

» The operator or the person handling the load determines it necessary due to site-specific concerns

Marking Hazard Areas

The company will identify hazard areas where the equipment has the potential to strike and injure an employee or pinch/crush an employee against any other object by marking the boundaries of the crane swing radius with warning lines, railings or similar barriers.

Operator Certification/Qualification

The company will ensure only those employees who are qualified by training or experience will be allowed to operate equipment and machinery. Qualifications include:

» Certification by an accredited crane operating testing organization

» Qualification by an audited company program.

» Qualification by the US military

» Licensing by a government entity

Modifications/Additions

The company will ensure that modifications or additions that may affect the capacity or original safe operation of the equipment will only be made with written approval from a registered professional engineer.

Mobile Cranes & Rigging

» Mobile cranes shall be operated in strict accordance with OSHA and ANSI regulations

» Cranes brought onto a jobsite shall have an annual inspection and applicable load charts

» Crane operators shall perform daily and monthly crane safety inspections and return them to their supervisor every day

» All cranes shall be equipped with anti-two block devices on both the load and whip lines

» Hooks shall be equipped with safety latches. Moused hooks are not allowed

» When rigging the hook of a crane, ensure there is only one eye in the hook

» Accessible areas within the swing radius of the rear of the rotating superstructure of the crane shall be barricaded to prevent an employee from being struck or crushed by the crane

» Supervisors will review the safe operations of the crane with each operator

» Supervisors will designate a qualified person to monitor all rigging. When the rigging does not fall within the expertise of the designated person, the load will not be lifted until a qualified person has reviewed the rigging

» The manufacturer's operating manual, instructions, and load charts of each individual crane shall be used to determine the safe operation of the crane

The manufacturer's load charts are developed under ideal conditions and typical field conditions are rarely ideal. Therefore, the following guidelines shall be used when operating the crane:

» The ground where the crane is to be set up must be solid and able to support the weight of the loaded crane. Determine if underground utilities exist near where the crane will be set up

» Ensure the crane is level 360° and maintained during operation

» Extend outriggers fully or set them per the manufacturer's recommendation for a particular lift configuration. Weight must be off the tires

» Cribbing or mats under outrigger pads shall be of sufficient size and properly placed to ensure adequate soil bearing

» Before a lift, determine the load weight and load capacity. Crane capacity charts are the ideal gross capacity of the crane at certain boom lengths, boom angles and load radius from the crane center pin

» Deductions to the net capacity shall be made per the manufacturer's load chart or operating manual for attachments such as jibs (stowed or attached), headache balls, wind, less than ideal setups, etc. to determine the load that can be safely listed

» Additional deductions to the net capacity are the weight of the crane's load block, rigging, and amount of load line required to make the lift. Some manufacturers include the load line in their load charts while others (e.g. Manitowoc) do not

» A designated, qualified person will determine the load weight. Note: OEM drawings listing the equipment or machinery assemblies are not always accurate. Refer to the shipping weight or have the equipment or machinery assembly weighed. Calculate all structural loads and determine the center of gravity. Cranes equipped with systems that provide weight of a load as it is lifted will not be used to weigh equipment or machinery assemblies

» Determine the radius from the center pin of the crane to the load using a steel ruler. This is required for capacity and near capacity lifts

» Determine the boom length, counterweight, and crane configuration to determine the correct load chart required

» Position the hook over the center of gravity of the load before starting the lift

» Position the crane so there is a minimum swing and load path clearance of two feet. Distance from overhead electrical will be a minimum of 10'. When working near electrical sources (overhead lines or lighting) the crane should be grounded

Crane operators are to know the weight of the load they are lifting. A written lift or rigging plan is required for any lift where:

» The load is greater than 85% of the crane capacity as configured for the lift

» Two cranes are used

» The Project Manager/Superintendent or Safety Supervisor determines any lift to be non-routine

Work Practices

» Employees shall keep all parts of the body inside the platform during raising, lowering and positioning. This provision does not apply to an occupant of the platform performing the duties of a signal person

» Before employees exit or enter a hoisted personnel platform that is not landed, the platform shall be secured to the structure where the work is to be performed, unless securing to the structure creates an unsafe condition

» Tag lines shall be used unless their use creates an unsafe condition

» The crane or derrick operator shall remain at the controls at all times when the crane engine is running and the platform is occupied

» Hoisting of employees shall be promptly discontinued upon indication of any dangerous weather conditions or other impending danger

» Employees being hoisted shall remain in continuous sight of, and in direct communication with, the operator or signal person. In those situations where direct visual contact with the operator is not possible, and the use of a signal person would create a greater hazard for the person, direct communication alone, such as by radio, may be used

» Except over water, employees occupying the personnel platform shall use a body belt/harness systems, with lanyard appropriately attached to the lower load block or overhaul ball, or to a structural member within the personnel platform capable of supporting a fall impact for employees using the anchorage. When working over water, the requirements of 29 CFR1926.106 shall apply

» No lifts shall be made on another of the crane's or derrick's loadlines while personnel are suspended on a platform

Rigging

» When a wire rope bridle is used to connect the personnel platform to the load line, each bridle leg shall be connected to a master link or shackle to ensure that the load is evenly divided among the bridle legs

» Hooks on overhaul ball assemblies, lower load blocks, or other attachment assemblies shall be a type that can be closed or locked, eliminating the hook throat opening. Alternatively, an alloy anchor type shackle, with a bolt, nut and retaining pin may be used

- Wire rope, shackles, rings, master links and other rigging hardware must be capable of supporting, without failure, at least five times the maximum intended load applied or transmitted to that component. Where rotation resistant rope is used, the slings shall be capable of supporting, without failure, at least ten times the maximum intended load
- All eyes in wire rope slings shall be fabricated with thimbles
- Bridles and associated rigging for attaching the personnel platform to hoist line shall be used only for the platform and necessary employees, their tools and the materials necessary to do their work and shall not be used for any other purpose when not hoisting personnel

Tower Cranes

- Tower cranes shall be equipped with a substantial and durable load chart both in the operator cab and/or on the remote control console
- No employee shall work or ride on any part of the crane boom without proper personal fall arrest equipment. No employee is to climb the tower or get on the boom when the crane is in operation
- Crane operators shall perform daily and monthly safety inspections
- Supervisors will ensure all tower crane operators are trained, experienced and competent
- No load shall be swung over a public street that is occupied by the general public
- Prior to a load being swung over other workers, the subcontractor using the crane shall provide a spotter who will sound an alarm as the load is moved across the work area. The spotter shall wear a yellow or green fluorescent ANSI Class 2-approved safety vest with high visibility
- The subcontractor shall submit a written crane-dismantling plan to Barnhill Contracting Company for review prior to dismantling the crane

Forklifts or Powered Industrial Trucks

- No employee shall operate a forklift or powered industrial truck without having successfully completed a documented training program, with the exception of doing so as part of a training exercise
- Any modification or addition performed by the customer or user to the equipment affecting capacity and safe operation without approval from the manufacturer is strictly prohibited
- Capacity, operation and maintenance instruction plates, tags, decals and nameplates must be changed accordingly and maintained in legible condition
- Forklifts and powered industrial trucks shall be inspected prior to operation each day and seat belts must be worn at all times
- Forklift operators shall be re-evaluated by a competent person every three years

Aerial Lifts

» Aerial lifts include the following types of vehicles: mounted aerial devices used to elevate personnel to above-ground jobsites, extension boom platforms, aerial ladders, articulating boom platforms, vertical towers.

The following guidelines should be used when operating aerial lifts:

» Lift controls shall be tested before use every day, to determine controls are in safe working condition

» Only authorized personnel shall operate an aerial lift

» Employees shall stand firmly on the floor of the basket, and shall not sit or climb on the edge of the basket or use planks, ladders or other devices for work position

» A body belt shall be worn and a lanyard attached to the boom or basket when working from an aerial lift

16 MECHANICS

General Job Requirements

» Wear your hardhat when required

» Report any unsafe act to your direct supervisor immediately

» Report any machine malfunction immediately

» Keep grease off equipment where you have to walk

Mechanics & Mechanics' Helpers

» Always chock and block raised equipment before working on it

» Equipment shall have the wheels chocked before working on it

» Lock brakes and transmission safety latch and lower blade before working on a machine

» Use safety glasses when there is a danger of small particles getting in the eye

» Keep equipment as free from grease and oil as possible where you or the operator must walk

» Secure ladders before using them to work on equipment

» Keep hand tools in good condition, no mushroom head, etc.

» Make sure all hand power tools have direct pressure switches and are grounded

» Always use lockout/tagout procedures when working on equipment

17 LADDER SAFETY

Specifications

Ladder rungs, cleats and steps shall be parallel, level and uniformly spaced when the ladder is in position for use.

Rungs, cleats and steps of portable and fixed ladders (including individual-rung/step ladders) shall be spaced not less than ten inches and no more than 14 inches apart, as measured between center lines of the rungs, cleats and steps.

Inspections

All company ladders are to be inspected by a qualified, competent person. The inspections will include checking for visible defects every 30 days and after any occurrence that could affect their safe use.

Ladder components shall be surfaced to prevent injury to any employee from punctures or lacerations, and to prevent snagging of clothing.

Wood ladders shall not be coated with any opaque covering, except for identification or warning labels which may be placed on only one face of the side rail.

Defective Ladders

Portable ladders with structural defects, such as, but not limited to, broken or missing rungs, cleats or steps; broken or split rails or corroded components will be withdrawn from service until repaired. The requirement to withdraw a defective ladder from service is satisfied if the ladder is either:

» Immediately tagged with "DO NOT USE" or similar language

» Marked in a manner that readily identifies it as defective

» Blocked (such as with plywood attachment that spans several rungs)

Use & Requirements

The following requirements apply to the use of all ladders, including job-made ladders, except as otherwise indicated:

» Ladders shall be maintained free of oil, grease and other slipping hazards

» Wood job-made ladders with spliced side rails shall be used at an angle such that the horizontal distance is 1/8 the working length of the ladder

» Fixed ladders shall be used at a pitch no greater than 90° from the horizontal, as measured to the back side of the ladder

» Ladders shall be used only on stable and level surfaces unless secured to prevent accidental displacement

» Ladders shall not be used on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental displacement

» Slip-resistant feet shall not be used as substitute for care in placing, lashing or holding a ladder that is used upon slippery surfaces including, but not limited to, flat metal or concrete surfaces

» Ladders placed in any location where they can be displaced by workplace activities or traffic, such as passageways, doorways or driveways, shall be secured to prevent accidental displacement, or barricade shall be used to keep the activities or traffic away from the ladder

» The area around the top and bottom of ladders shall be kept clear

» The top of a non-self-supporting ladder shall be placed with the two rails supported equally unless it is equipped with a single support attachment

» Ladders shall not be moved, shifted or extended while occupied

» Ladders shall not have conductive siderails if they are used where the employee or the ladder could come into contact with exposed energized electrical equipment

» The top or top step of a step ladder shall not be used as a step

» Cross-bracing on the rear section of step ladders shall not be used for climbing unless the ladders are designed and provided with steps for climbing on both the front and rear sections

» When portable ladders are used for access to an upper landing surface, the ladder side rails shall extend at least three feet (.9 m) above the upper landing surface to which the ladder is used to gain access or when such an extension is not possible because of the ladder's length. Then the ladder shall be secured at its top to a rigid support that will not deflect, and a grasping device, such as a grabrail, shall be provided to assist employees in mounting and dismounting the ladder

» Ladder deflection under a load should never, by itself, cause the ladder to slip off its support due to extension

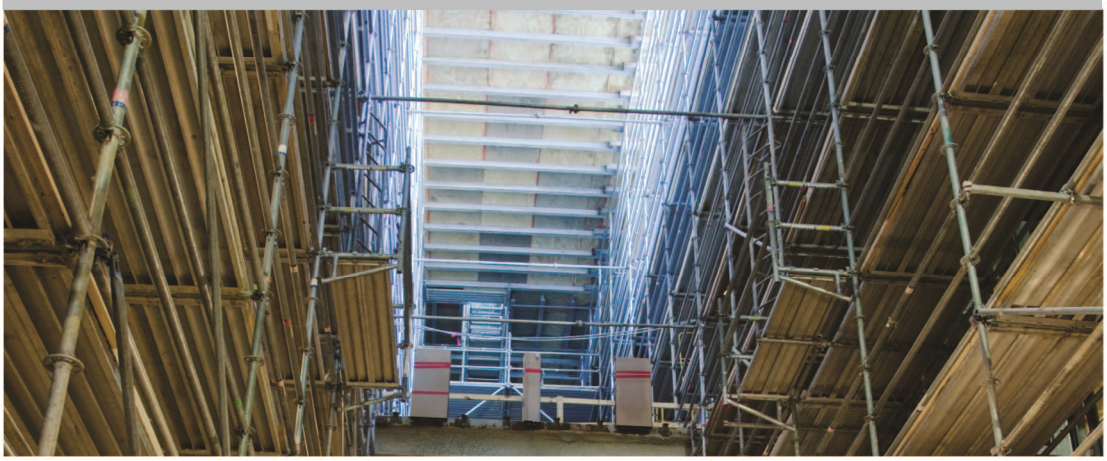
» Non-self-supporting ladders shall be used at an angle such that the horizontal distance from the top

support to the foot of the ladder is approximately ¼ of the working length of the ladder (the distance along the ladder between the foot and top support)

» Ladders shall not be loaded beyond the maximum intended load for which they were built, nor beyond the manufacturer's rated capacity

» Ladders shall only be used for the purpose for which they were designed

18 SCAFFOLDING SAFETY



Training Requirements

Every employee who performs work while on a scaffold must complete Barnhill Contracting Company's training course taught by a trainer who is well qualified with the subject matter to recognize the hazards associated with the type of scaffold being used and understands the procedures to control and/or minimize those hazards. The training program includes the following areas, as applicable:

» The nature of any electrical, fall or falling object hazards in the work area

» The correct procedures for dealing with electrical hazards and for erecting, maintaining and disassembling the fall protection systems and falling object protection systems being used

» The proper use of the scaffold and the proper handling of materials on the scaffold

» The maximum intended load and the load-carrying capacities of the scaffolds used

» Any other pertinent requirements of this section

When the company has reason to believe that an employee lacks the skill or understanding needed for safe work involving the erection, use of dismantling of scaffolds, each such employee shall be re-trained so that the requisite proficiency is regained. Re-training is required in at least the following situations:

» Where changes at the worksite present a hazard about which the employee has not been previously trained

» Where changes in types of scaffolds, fall protection, falling object protection or other equipment present a hazard about which the employee has not been previously trained

» Where inadequacies in an affected employee's work involving scaffolds indicate that the employee has not retained the requisite proficiency

Competent Person

The company's competent person has acquired the experience, knowledge, and training to allow them to be:

» One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees and who has authorization to take prompt corrective measures to eliminate them

» A competent person will be knowledgeable about the requirements of this standard and has sufficient training or knowledge to identify and correct hazards encountered in scaffold work

» Will have had specific training in and be knowledgeable regarding the structural integrity of scaffolds and the procedures needed to maintain them

» By definition, the competent person must have the authority to take prompt corrective measures to abate potentially hazardous worksite conditions

» A competent person is also required to inspect the scaffold and its components for visible defects before each work shift and after any occurrence which could affect the scaffold's structural integrity

Tags

Use of Tags

Tags shall be used as a means to prevent accidental injury or illness to employees who are exposed to hazardous or potentially hazardous conditions, equipment or operations which are out of the ordinary, unexpected or not readily apparent. Tags shall be used until such time as the identified hazard is eliminated or the hazardous operation is completed. Tags need not be used where signs, guarding or other positive means of protection are being used.

General Tag Criteria

All required tags shall meet the following criteria:

» Tags shall contain a signal word and a major message

» The signal word shall be either "DANGER" or "CAUTION"

» The major message shall indicate the specific hazardous condition of the instruction to be communicated to the employee

» The signal word shall be readable at a minimum distance of five feet (1.52 m) or such greater distance as warranted by the hazard

- The tag's major message shall be presented in either pictographs, written text or both
- The signal word and the major message shall be understandable to all employees who may be exposed to the identified hazard
- All employees shall be informed as to the meaning of the various tags used throughout the workplace and what special precautions are necessary
- Tags shall be affixed as close as safely possible to their respective hazards by a positive means such as string, wire, or adhesive that prevents their loss or unintended removal

Danger Tags

Danger tags shall be used ONLY in major hazard situations where an immediate hazard presents a threat of death or serious injury to employees.

Caution Tags

Caution tags shall be used ONLY in minor hazard situations where a non-immediate, potential hazard or unsafe practice presents a lesser threat of employee injury.

Warning Tags

Warning tags may be used to represent a hazard level between "Caution" and "Danger," instead of the required "Caution" tag, provided they have a signal word of "Warning," an appropriate major message.

19 STEEL ERECTION

Overview

» The steel erector will be notified in writing when concrete or mortar in footings, piers, walls or masonry piers and walls has reached 75% of minimum design strength or will support load

» Erection is prohibited until adequate strength is properly documented

» Adequate access into and through the site will be provided and maintained for erector's equipment and materials

» Contractor will provide a safe area for the erector to set up cranes

» Erector will provide fall protection for crews when working six feet from the ground

» Erector will provide the following training documentation for each member of their crew: Fall Hazards and Prevention, Connecting Safety, Decking Safety and Rigging Safety

Overview

» Prior to the start of any demolition work, Barnhill Contracting Company, or a representative subcontractor, will perform an engineering survey of the building or area to be demolished to determine the condition of the area. No work will begin until this engineering survey has been completed

» Debris and material shall not be dropped through walls, floor holes, windows or other elevated work areas without barricading and properly signing the area below

» Debris chutes shall have a substantial gate at all elevated openings

» Barnhill Contracting Company will require the demolition contractor to submit a site-specific fall protection plan if the work requires removal of flooring

» Demolition activities shall follow OSHA rules

» If demolition of a building requires implosions, the demolition contractor shall submit a detailed safety plan specifically addressing site preparation, installation of explosives, debris/dust control and blaster qualifications to Barnhill Contracting Company

21 HAZARD COMMUNICATION, SDS, JSHAs

The hazard communication plan not only complies with the OSHA standard requirements, but also ensures that all Barnhill Contracting Company employees are effectively informed concerning potential and existing workplace safety and health hazards, especially chemical hazards. Hazard communication is only one of the many important aspects of this company's occupational safety and health program including:

» Enforcement of safety rules and procedures

» Effective education and training programs

» Assigned safety and health responsibility and accountability

» Management commitment and active support

» Engineering controls for safety and health hazards

» Recognition (hazard communication), evaluation, and control of occupational safety and health hazards

» Medical surveillance

It must be emphasized that safety and health hazards cannot be eliminated or effectively controlled unless they are recognized as "hazards." Thus, hazard communication is considered to be one of the first steps in establishing and maintaining an effective Occupational Safety and Health Program.

Basic fundamentals used by the company to ensure employees are effectively informed concerning workplace safety and health hazards include:

» Container labeling and other forms of warning

» Safety data sheets (SDS)

» Employee education and training

This Hazard Communication Program applies to known occupational safety and health hazards and chemicals known to be present in the workplace in such manner that employees may be exposed under normal conditions of use or in a foreseeable emergency.

Barnhill Contracting Company identifies workplace safety and health hazards using:

» Safety data sheets (SDS) provided by chemical manufacturers and distributors

» Information provided by machinery and equipment manufacturers

» Safety and health standards, codes and regulations

» Company Job Safety and Health Analysis (JSHA)

Employee Information & Training

Barnhill Contracting Company provides employees with effective information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new physical or health hazard is introduced into their work area. Information and training is designed to cover categories of hazards (e.g. flammability, carcinogenicity) or specific chemicals. Chemical-specific information is always available at the worksite through labels and safety data sheets (SDS).

Information

Employees will receive information, including the following:

» The requirements of training following this section

» Any operations in their work area where hazardous chemicals are present

» The location and availability of the written Hazard Communication Program, including the required list(s) of hazardous chemicals and SDS

Training

Employee training incorporates the following:

» Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the company, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.)

» The physical and health hazards of the chemicals in the work area

» The measures employees can take to protect themselves from these hazards, including specific procedures the company has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures and personal protective equipment to be used

» The details of the Hazard Communication Program developed by the company including an explanation of the labeling system and SDS and how employees can obtain and use the appropriate hazard information

The training checklist to be used by all employees when possible exposure to any potentially hazardous material includes:

» Requirements

» Responsibility for tasks

» Master SDS list for chemicals

» SDS for each chemical

» A copy of written program

» Emergency procedures

» Any additional training required

» Procedures to maintain current program

» Procedures to evaluate effectiveness

Written Hazard Communication Program

The company will develop, implement and maintain a written hazard communication program at each workplace. The company's Safety Director is responsible for ensuring that the labels are maintained as required on the containers at the facility, and that newly purchased materials are checked for labels prior to use.

A description of the criteria for labels and others forms of warning, safety data sheets and employee information and training will be readily available to any company and employee which includes the following:

» A list of the hazardous chemicals known to be present using an identity that is referenced on the appropriate SDS (the list may be compiled for the workplace as a whole of for individual work areas)

» The company will inform employees of the hazards of non-routine tasks (for example, the cleaning of reactor vessels, etc.) and the hazards associated with chemicals contained in unlabeled pipes in their work areas

» The method the company will use to inform employees is conducting a job hazard analysis prior to the non-routine task being performed and then hold a meeting with affected employees to discuss the hazards

Multi-Employer Workplaces

Other employers, including the company who produces, uses or stores hazardous chemicals at a workplace in such a way that the employees of other employers may be exposed (for example, employees of a construction contractor working on site) are required by OSHA to additionally ensure that their hazard communication programs implement the following:

» The methods used to provide the other employer(s) on-site access to safety data sheets for each hazardous chemical the other employer's employees may be exposed to while working

» The methods to inform the other employer(s) of any precautionary measures to be taken to protect employees during the workplace's normal operating conditions and in foreseeable emergencies

» The methods to inform the other employer(s) of the labeling system used in the workplace

The company will make their written hazard communication program available, upon request, to employees, their designated representatives, the Assistant Secretary of Labor for Occupational Safety and Health, US Department of Labor of The National Institute for Occupational Safety and Health, in accordance with the requirements of 29 CFR 1910.1020(e).

Where employees must travel between workplaces during a work shift (i.e. their work is carried out at more than one geographical location) the written hazard communication program may be kept at the primary workplace facility.

Labels & Other Forms of Warning

The company will not remove or deface existing labels on incoming containers of hazardous chemicals, unless the container is immediately marked with the required information.

The company may use signs, placards, process sheets, batch tickets, operating procedures or other such written materials in lieu of affixing labels to individual stationary, process containers, as long as the alternative method identifies the containers to which it is applicable and conveys the information below to be on the label:

» Identity of the hazardous chemical

» Appropriate hazard warnings

» Name and address of the chemical manufacturer, importer or other responsible party

The written materials shall be readily accessible to the employee in their work area throughout each work shift.

Other Hazard Warnings

Appropriate hazard warnings (or alternatively, words, pictures, symbols or combination thereof) which provide at least general information regarding the hazards of the chemicals, in which, in conjunction with the other information immediately available to employees under the hazard communication, will provide employees with the specific information regarding the physical and health hazards of the hazardous chemical.

Control Banding

Control banding is a process in which control technology is applied to a chemical. The control banding approach focuses resources on exposure controls and describes how strictly a risk needs to be managed. The control banding process emphasizes controls needed to prevent hazardous substances from causing harm to people at work. The greater the potential for harm, the greater the degree of control needed to manage the situation and make the risk "acceptable."

Control Bands for Exposure to Chemicals by Inhalation			
Band No.	Range of Exposure Concentrations	Hazard Group	Control
1	>1 to 10mg/m^3 dust .50 to 500 ppm vapor	skin and eye irritants	use good industrial hygiene and general ventilation
2	>0.1 to 1mg/m^3 dust >5 to 50 ppm vapor	harmful on single exposure	use local exhaust ventilation
3	>0.01 to 0.1 mg/m^3 dust	severely irritating and corrosive	enclose the process
4	<0.01 mg.m^3 dust <0.5 ppm vapor	very toxic on single exposure reproductive hazard, *sensitizer	seek expert advice
*Exposure to any concentration of a sensitizer requires expert advice			

Non-English Hazard Communication

The company shall ensure that labels and other forms of warning are legible, in English, and prominently displayed on the container, or readily available in the work area throughout each work shift. If the company has employees who speak other languages, they may add the information in their language to the material presented, as long as the information is also presented in English.

Safety Data Sheets (SDS)

Chemical manufacturers are responsible for Safety Data Sheets. The company shall have a SDS for each chemical used at the facility or jobsite, with the exception of consumer products. The company maintains in the workplace copies of the required Safety Data Sheets for each individual hazardous chemical in the workplace, and ensures it is readily accessible during each work shift to employees when they are in their work area(s). Electronic access and other alternatives to maintaining paper copies of the SDS are permitted as long as no barriers to immediate employee access in each workplace are created by such options.

Where employees must travel between workplaces during a work shift (i.e. their work is carried out at more than one geographical location), the SDS may be kept in the primary workplace facility. In this situation, the company shall ensure that employees can immediately obtain the required information in an emergency.

Safety Data Sheets may be kept in any form, including operating procedures, and may be designed to cover groups of hazardous chemicals in a work area where it may be more appropriate to address the hazards of a process rather than individual hazardous chemicals. However, the company shall ensure that in all cases the required information is provided for each hazardous chemical, and is readily accessible during each work shift to employees when they are in their work area(s).

Safety Data Sheets are also readily available, upon request, to designated representatives and to the Assistant Secretary of Labor for Occupational Safety and Health, US Department of Labor and Director of the National Institute for Occupational Safety and Health in accordance with the requirements of 29 CFR 1910.1020(e).

Hazardous Chemical List

Barnhill Contracting Company maintains a list of the hazardous chemicals known to be present in the workplace. This list is kept in each department along with the SDSs. The identity of each chemical

is referenced on the appropriate SDS. Employees who desire to see this list should contact their immediate supervisor.

Machinery & Equipment Hazard Warnings

Barnhill Contracting Company provides safety rules and procedures that include pertinent information provided by machine and equipment manufacturers. Some manufacturers provide warning signs, pamphlets and other safety related materials that the company uses to protect employees.

Safety & Health Standards, Codes & Regulations

The company uses occupational safety and health voluntary general consensus standards and safety codes prepared by safety, fire protection and health standard-making organizations, governmental, regulatory and research organizations.

Job Safety & Health Analyses (JSHAs)

Barnhill Contracting Company conducts Job Safety and Health Analyses to review job methods and uncover hazards which:

» May have been overlooked in the initial building layout and design of machinery, equipment, tools, workstations, and processes

» May have developed after initial operation

» Resulted from changes in work procedures or personnel

Basic Steps of JSHAs

The four basic steps used by supervisors and employees in making a JSHA include:

1. Select the job to be analyzed
2. Break the job down into successive steps or activities, and observe how these actions are performed
3. Identify the existing and potential hazards
4. Develop appropriate safety and health procedures to eliminate the hazards and prevent potential injuries and illness

New Employee Safety & Health Training

All new employees receive appropriate safety and health information, education, and training during their initial assignment. The measures employees can take to protect themselves from hazards including pertinent work practices, company emergency procedures and personal protective equipment are covered.

This training includes information concerning hazardous chemicals in the workplace.

Barnhill Contracting Company's New Employee Safety and Health Training Program begins upon hire by the personnel department and continues with on-site training by the new employee's department supervision. Specific information in the safety and health training includes:

» General safety and health rules and procedures

» General chemical hazards

» Recognition, evaluation, and control of hazards

» Chemical labeling

» Hazards associated with unlabeled piping and process systems

» Safety Data Sheets

» Access to safety and health Information

» Compliance with safety and health rules and procedures

» Requirements of the OSHA hazard communication standard

» Specific operations in work areas where hazardous chemicals are present

» The location and availability of the company's written Hazard Communication Program and all contents

The New Employee Hazard Communication Orientation and Training Checklist at the end of this manual shows the system for assuring effective employee training.

Department supervisors will utilize appropriate Job Safety and Health Analysis Sheets to train new employees when they are assigned to the work area. Work area supervisors will train employees concerning methods and observations the employee may use to detect the presence or release of hazardous chemical in the work area. These techniques will also include monitoring devices and systems, visual appearance or odor of hazardous chemicals.

Re-Training

It is necessary for work area supervisors to provide additional employee training concerning workplace hazards when:

» New chemicals are introduced into the workplace

» Process or equipment changes are made which could cause new or increased employee exposures

» Procedures and work practices are introduced or changed which could cause changes in the employees' exposure

» Employees are transferred from one work area to another where different hazards are present

The supervisor conducting the retraining will make a written record of the training provided and request the employee receiving the training to sign and date the record. A permanent record of all employee training is maintained in the employee's personnel folder.

Trade Secrets

Special governmental regulations (29 CFR 1910.1200) are provided to ensure that the required safety and health information may be obtained concerning specified trade secret chemicals. The

specific chemical identity must be made available to health professionals, in accordance with applicable provisions of the OSHA standard. Refer to the OSHA hazard communication standard (1910.1200) for specific details.

Non-Routine Tasks

The supervisor of an employee performing a non-routine task (i.e. cleaning process equipment and vessels) is responsible for adequately training employee's concerning the potential hazards associated with the non-routine task. The employee shares in this responsibility by ensuring his/her immediate supervisor knows that the non-routine task will be performed.

Barnhill Contracting Company requires that special work permits be required for some non-routine tasks, such as confined space entry permits, breaking and opening piping systems and welding and burning permits. Some special tasks require employees to shutdown, lockout power sources with padlocks, ensure all motion has stopped and energy is released or isolated prior to performing work. These special company procedures and work practices must be followed by employees to ensure their safety.

Contractors

Barnhill Contracting Company management will inform all contractors working on property concerning applicable workplace hazardous chemicals to which the contractor's employees may be exposed and the appropriate control measures.

Each contractor is advised by company management that they must comply with all OSHA standards while working on company property. Proper controls should be established to ensure company operations do not expose contractor employees to hazards.

A copy of Safety Data Sheets concerning any chemicals to which the contractor's employees may be exposed will be provided to the contractor by Barnhill Contracting Company management.

Program Availability

Barnhill Contracting Company's Hazard Communication Program is available, upon request, to:

» Employees

» Designated employee representatives

» OSHA representatives

» NIOSH (National Institute for Occupational Safety and Health) representatives

22 BLOOD BORNE PATHOGENS

This policy covers blood borne pathogens and other potentially infectious materials and includes Barnhill Contracting Company's Exposure Control Plan as required by 29 CFR 1910.1030(c). The only circumstance under which employees are expected to come into contact with blood borne pathogens or potentially infectious materials are when rendering first aid and CPR or cleaning after an accident.

Responsibilities

Employee - Understands and complies with all phases of Barnhill Contracting Company's policies and procedures for situations involving blood borne pathogens or other potentially infectious materials. Employees not having formal first aid training shall maintain a "hands off" practice in the event of an emergency. These employees should contact a first aid responder as quickly as possible.

Supervisor - Ensures that all employees who may have come into contact with a blood borne pathogen or other potentially infectious material are familiar with Barnhill Contracting Company's policies and that those policies are implemented.

Safety Department - Ensures that protective equipment as specified in this policy is available and properly maintained.

Communication of Hazards to Employees

Exposure

The company has developed this written Exposure Control Plan which is designed to eliminate or minimize employees' occupational exposures to blood or other potentially infectious materials.

The Safety Director will be responsible for the Company's Occupational Exposure Program, with the host facilities acting representative designated with all day-to-day operations. The company is also required to maintain the written medical records and training documentation records.

Occupational Exposure

Defined by OSHA 1910.1030.b as a state in which reasonably anticipated skin, eye, mucous membrane, or parental contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

Other Potentially Infectious Materials

This program also addresses other potentially infectious materials including:

» The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood and all body fluids in situations where is it difficult or impossible to differentiate between body fluids

» Any unfixed tissue or organ (other than intact skin) from a human (living or dead)

» HIV-containing cell or tissue cultures, organ cultures, and HIV or HBV-containing culture medium or other solutions; and blood, organs and other tissues from experimental animals infected with HIV or HBV

Exposure Control Plan

The following Exposure Control Plan procedures are designed to eliminate or minimize employee exposure. Employee participation in the Exposure Control Plan is mandatory and contains the schedule and implementation for the following elements:

» Methods and compliance

» HIV and HBV research laboratories and production facilities

» Hepatitis B vaccination and post-exposure evaluation and follow up

» Communication of hazards to employees

Record Keeping

The company will provide a copy of the Exposure Control Plan to employees in accordance with the Record Keeping Reports section that follows.

Review & Update

The Exposure Control Plan will be reviewed and updated at least annually and whenever necessary to reflect new or modified tasks and company procedures which affect occupational exposure and to reflect new or revised employee positions with occupational exposure. The review and update of such plans will also:

» Reflect changes in technology that eliminate or reduce exposure to blood borne pathogens

» Document consideration and implementation of appropriate commercially available and effective safer medical devices designed to eliminate and minimize occupational exposure annually

The company may survey any employees responsible for direct patient care who are potentially exposed to injuries from contaminated sharps in the identification, evaluation and selection of effective engineering and work practice controls and will document the results in the Exposure Control Plan.

The Exposure Control Plan is available to the representatives of the Assistant Secretary and to representatives of the Director under the Occupational Safety and Health Act upon request for examination and copying.

Exposure Determination

The company having an employee(s) with occupational exposure as defined by the Occupational Exposure section will prepare an exposure determination. This exposure determination will contain the following:

» A list of all job classifications in which employees in those job classifications have occupational exposure

» Employees who are trained in first aid or those are expected to provide emergency help

» A list of job classifications in which some employees have occupational exposure

» A list of all company tasks and/or closely related tasks in which occupational exposure may occur to the employee in accordance with this section. This exposure determination is made without regard to the use of personal protective equipment

Exposure Incident

Following a report of an exposure incident, the company will immediately make available to the exposed employee a confidential medical evaluation and follow-up, including the following elements:

» Documentation of the route(s) of exposure and the circumstances under which the exposure incident occurred.

» Identification and documentation of the source individual, unless the identification is infeasible or prohibited by state or local law.

» The source individual's blood will be tested as soon as feasible and after consent is obtained in order to determine the HBV or HIV infectivity. If consent is not obtained, the company will document that legally required consent cannot be obtained.

» When the source individual's consent is not required by law, the source individual's blood, if available, is to be tested and the results documented.

Information & Training

The company requires that all employees who could possibly face occupational exposure participate in a training program during working hours which is provided at no cost to the employee. Training is provided as follows:

» At the time of initial assignment to tasks where occupational exposure may take place

» Annual training for all employees within one year of previous training.

Labels & Signs

Warning labels are required to be affixed to containers of regulated waste, refrigerators and freezers containing blood or other potentially infectious material; and other containers used to store, transport or ship blood or other potentially infectious materials.

Labels required by this section will including the following legend:

» Labels will be fluorescent orange-red or predominantly so, with lettering and symbols containing contrasting color

» Labels will be affixed as close as feasible to the container by string, wire, adhesive or other method that prevents their loss or unintentional removal

» Labels required for contaminated equipment will be in accordance with this section and will state which portions of the equipment remain contaminated

» Red bags or red containers may be substituted for labels

Exemptions: Containers of blood, blood components, or blood products that are labeled as to their contents and have been released for transfusion or other clinical use are exempted from the labeling requirements of the above labels section.

Individual containers of blood and other potentially infectious materials that are placed in a labeled container during storage, transport, shipment or disposal are exempted from the labeling requirements.

Regulated waste that has been decontaminated need not be labeled or color coded.

Signs

The company will post signs at the entrance to any work area where potential exposure may exist. These signs will be fluorescent orange-red or predominantly so, with lettering and symbols in contrasting colors.

Methods of Compliance

Universal precautions are observed to prevent contact with blood or other potentially infectious materials. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids will be considered potentially infectious materials.

The company will provide a copy of the Exposure Control Plan to employees at such a time as:

» Whenever an employee or designated representative requests access to a record, the company will assure access is provided in a reasonable time, place and manner

» If the company cannot reasonably provide access to the record within 15 working days, the company will, within those 15 working days, apprise the employee or designated representative requesting the record of the reason for the delay and the earliest date when the record can be made available

Engineering & Work Practice Controls

Engineering and work practice controls have been put in place to eliminate or minimize employee exposure. Where occupational exposure remains after institution of these controls, personal protective equipment will be issued to employees.

The company's engineering controls will be examined and maintained or replaced every 30 days to ensure their effectiveness.

Hand Washing

The company will provide handwashing facilities which are readily accessible to employees. When provision of handwashing facilities is not feasible, the company will provide either an appropriate antiseptic hand cleanser in conjunction with clean cloth/paper towels, antiseptic hand cleansers, or towelettes. Hands will be washed with soap and running water as soon as feasible.

The company requires its employees to wash their hands immediately or as soon as possible after removal of gloves or other personal protective equipment.

The company will ensure that employees wash hands and any other skin with soap and water, or flush mucous membranes with water immediately or as soon as feasible following contact of such body areas with blood or other potentially infectious materials.

Specimens of blood or other potentially infectious materials are to be placed in a container that prevents leakage during collection, handling, processing, storage, transport or shipping.

Personal Protective Equipment

When there is occupational exposure, the company will provide appropriate personal protective equipment such as, but not limited to: gloves, gowns, lab coats, face shields, or masks and eye protection and mouthpieces, resuscitation bags, pocket masks or other ventilation devices at no cost to the employee.

Personal protective equipment will be considered "appropriate" only if it does not permit blood or other potentially infectious materials to pass through to reach the employee's work clothes, street clothes, undergarments, skin, eyes, mouth or other mucous membranes under normal conditions of use and for the duration of time that the protective equipment will be used.

Use of Personal Protective Equipment

The company policy requires that all employees use the appropriate personal protective equipment provided to them whenever the possibility of exposure exists or when directed to do so in the safety policies of the company.

Exception - An employee may temporarily and briefly decline to use personal protective equipment

when, in the employee's professional judgement, that in the specific instance its use would pose an increased hazard to the safety of the worker or coworker.

Investigation - When the employee makes this judgement, the circumstances will be investigated and documented in order to determine whether changes can be instituted to prevent such occurrences in the future.

Accessibility

The company will ensure that appropriate personal protective equipment in the appropriate sizes is readily accessible at the worksite or is issued to employees. Hypo-allergenic gloves, glove liners, powderless gloves or other similar alternatives will be readily accessible to those employees who are allergic to the gloves normally provided.

Cleaning, Disposal, Repair & Replacement

The company will clean and dispose of personal protective equipment and will repair or replace personal protective equipment as needed to maintain its effectiveness at no cost to the employee.

Housekeeping - Laundry - Cleaning of Contaminated Areas

The company will ensure the worksite is maintained in a clean and sanitary condition. The company will implement any appropriate written schedule for cleaning and method of decontamination based upon the location within the facility, type of surface to be cleaned, type of soil present and tasks or procedures being performed in the area.

Decontaminated Surfaces

All equipment and work surfaces will be cleaned and decontaminated after contact with blood or other potentially infectious materials.

Contaminated work surfaces will be decontaminated with an appropriate disinfectant after completion of procedures immediately or as soon as feasible when surfaces are overtly contaminated or after any spill of blood or other potentially infectious materials ; and at the end of the work shift if the surface may have become contaminated during the shift.

Waste Receptacles

All bins, pails, cans and similar receptacles intended for reuse which have a reasonable likelihood for becoming contaminated with blood or other potentially infectious materials will be inspected and decontaminated on a regularly scheduled basis and cleaned and decontaminated immediately or as soon as feasible upon visible contamination.

Broken glassware that may be contaminated will not be picked up directly with the hands. It will be cleaned up using mechanical means, such as a brush and dust pan, tongs or forceps.

Reusable sharps that are contaminated with blood or other potentially infectious materials will not be stored or processed in a manner that requires employees to reach by hand into containers where these sharps have been placed.

Regulated Waste

Contaminated Sharps Discarding & Containment

Contaminated sharps will be discarded immediately or as soon as feasible in containers that are:

» Closeable

» Puncture resistant

» Leak proof on sides and bottom

» Labeled or color-coded in accordance with the Labels & Signs paragraph of this section

During use, containers for contaminated sharps will be:

» Easily accessible to personnel and located as close as feasible to the immediate area where sharps are used or can be reasonably anticipated to be found (e.g. laundries)

» Maintained upright throughout use

» Not overfilled and replaced routinely

When moving containers of contaminated sharps from the area of use, the containers will be:

» Closed immediately prior to removal or replacement to prevent spillage or protrusion of contents during handling, storage, transport or shipping

» Placed in a secondary container if leakage is possible

The secondary container will be:

» Closeable

» Constructed to contain all contents and prevent leakage during handling, storage, transport or shipping

» Labeled or color-coded according to the Labels Program of this section

Reusable containers will not be opened, emptied, or cleaned annually in any other manner which would expose employees to risk of percutaneous injury.

Other Regulated Waste Containment

Regulated waste will be placed in containers that are:

» Closeable

» Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping

» Labeled or color-coded in accordance with the Labels & Signs paragraph of this section

» Closed prior to removal to prevent spillage or protrusion of contents during handling, storage or shipping

If outside contamination of the regulated waste container occurs, it will be place in a secondary container. The secondary container will be:

» Closeable

» Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping

» Labeled or color-coded in accordance with the Labels & Signs paragraph of this section

» Closed prior to removal to prevent spillage or protrusion of contents during handling, storage or shipping

Disposal of all regulated waste will be in accordance with applicable local, state and federal regulations.

Laundry

Contaminated laundry will be handled as little as possible, with a minimum of agitation. Contaminated laundry will be bagged and containerized at the location where it was used and will not be sorted or rinsed in the location of use.

Hepatitis B Vaccination & Post-Exposure Evaluation and Follow-Up

The company policy includes ensuring that Hepatitis B vaccine and vaccination series are available to all employees who have occupational exposure and post-exposure evaluation and follow-up to all employees who have had an exposure incident.

The company also ensures that all medical evaluations and procedures, including Hepatitis B vaccine and vaccination series and post-exposure evaluation and follow-up, including prophylaxis, are made available to the employee at no cost.

Information Provided to the Healthcare Professional

The company will ensure that the healthcare professional responsible for the employee's Hepatitis B vaccination or evaluating an employee after an exposure incident, is provided with the following information:

» Copy of this program

» Description of the exposed employee's duties as they relate to the exposure incident

» Documentation of the route(s) of exposure and circumstances under which exposure occurred

» Results of the source individual's blood testing, if available

» All medical records relevant to the appropriate treatment of the employee, including vaccination status, which is the responsibility of the company to maintain

Healthcare Professional's Written Opinion

The company will obtain and provide the employee with a copy of the evaluation healthcare professional's written opinion within 15 days of the completion of the evaluation.

The healthcare professional's written opinion for Hepatitis B vaccination will be limited to whether Hepatitis B vaccination is indicated for an employee, and if the employee has received such vaccination.

The healthcare professional's written opinion for post-exposure evaluation and follow-up will be limited to the following information:

» The employee has been informed of the results of the evaluation

» The employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials, which require further evaluation or treatment

» All other findings or diagnoses will remain confidential and will not be included in the written report

Record Keeping - Reports

Medical Records

The company will establish and maintain an accurate record for each employee with occupational exposure, in accordance with 29 CFR 1910.1020. This record will include:

» Name and social security number of employee

» Copy of the employee's Hepatitis B vaccination status, including the dates of all Hepatitis B vaccinations and any medical records relative to the employee's ability to receive vaccination as required by this program

» Company's copy of the healthcare professional's written opinion as required in this program

» Copy of the information provided to the healthcare professional as required by this program

Confidentiality

The company will require that all employee medical records required by this section are:

» Kept confidential

» Not disclosed or reported without the employee's express written consent to any person within or outside the workplace, except as required by the section or as may be required by law

» Records are maintained in accordance with this program for at least the duration of the employee's employment plus 30 years, in accordance with 29 CFR 1910.1020

Training Records

Training records will be maintained for three years from the date which training occurred. Records will include the following information:

» Dates of training sessions

» Contents or summary of the training sessions

» Names and qualifications of persons conducting the training

» Names and job titles of all persons attending the training sessions

The company will ensure that all employee training records required to be maintained by this program will be made available, upon request, to all employees, authorized employee representatives, Assistant Secretary of Labor for Occupational Safety and Health, US Department of Labor and Director of the National Institute for Occupational Safety and Health under the Occupational Safety and Health Act for examination and copying.

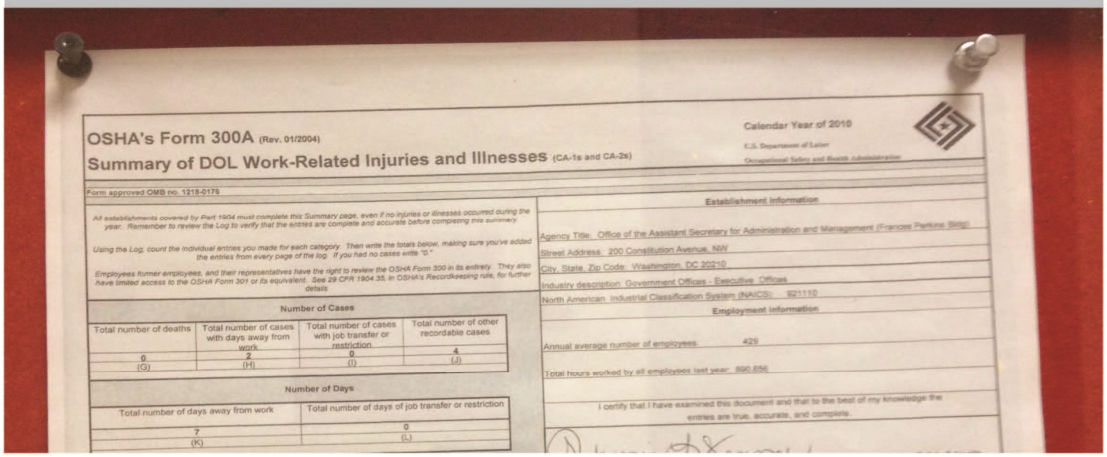
Employee medical records required by this program will be provided upon request for examination and copying to the subject employee, representatives of the subject employee having written consent, and to provide representatives of the Assistant Secretary a right of access to these records in order to fulfill responsibilities under the Occupational Safety and Health Act - reference section 29 CFR 1910.1020.

Transfer of Records

The company will comply with the requirements involving transfer of records set forth in 29 CFR 1910.1020(h).

If the company ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, the company will notify the Assistant Secretary of Labor for Occupational Safety and Health, US Department of Labor and Director of the National Institute for Occupational Safety and Health at least three months prior to the record's disposal and transmit the records, if required, within that three month period.

23 INJURY & ILLNESS RECORD KEEPING PROGRAM



OSHA's Form 300A (Rev. 01/2004)
Summary of DOL Work-Related Injuries and Illnesses (CA-1s and CA-2s)

Calendar Year of 2010

Form approved OMB no. 1218-0176

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete and accurate before completing this summary.

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the log. If you had no cases write "0."

Employees, former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA's Recordkeeping rule, for further details.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
0 (G)	2 (H)	0 (I)	4 (J)

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
7 (K)	0 (L)

Establishment information

Agency Title: Office of the Assistant Secretary for Administration and Management (Frances Perkins Bldg)

Street Address: 200 Constitution Avenue, NW

City, State, Zip Code: Washington, DC 20210

Industry description: Government Offices - Executive Offices

North American Industrial Classification System (NAICS): 921110

Employment information

Annual average number of employees: 429

Total hours worked by all employees last year: 890,656

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

Record-Keeping Program

The company fully understands that companies with 11 or more employees at any time during the calendar year, must comply with the provisions of 29 CFR 1904. This standard provides for record keeping and reporting requirements under 29 CFR 1904 as necessary or appropriate for developing information regarding the causes and prevention of occupational accidents and illnesses, and for maintaining a program of collection, compilation and analysis of occupational safety and health statistics both for the company and as part of the national system for analysis of occupational safety and health.

Records provide employers and OSHA with statistical data to enable safety programs to determine where emphasis should be placed in order to mitigate or eliminate injuries or accidents in the future. The OSHA Record Keeping Standard establishes uniform requirements to make sure that the illnesses and injuries sustained in US workplaces are evaluated, and that this information is properly collected, compiled, retained, analyzed and transmitted to all affected workers and to OSHA.

The company is required to keep records of fatalities, injuries and illnesses.

Recordable Illnesses & Injuries

The company must enter each recordable injury or illness on an OSHA 300 Log and 301 Incident Report, or other equivalent form, within seven calendar days of receiving information that a recordable injury or illness has occurred. Computerized versions are acceptable as long as they contain the same information as the OSHA version.

The log will be used for classifying occupational injuries and illnesses, and for noting the extent of each case. The log shows when the occupational injury or illness occurred, to whom, the regular job of the injured or ill person at the time of the injury or illness exposure, the division in which the person was employed, the type of injury or illness, how much time was lost, whether the case resulted in a fatality, etc. The company will maintain a log and summary of all recordable occupational injuries and illnesses by calendar year.

OSHA 300 Summary

A company executive will certify that he/she has examined the OSHA 300 Log and that he/she reasonably believes, based on his/her knowledge of the process by which the information was recorded, that the annual summary is correct and complete.

The company will post an annual summary of occupational injuries and illnesses for each facility under its control on February 1st for three months (February 1 - April 30). The summary will contain information from the previous year. This summary will consist of a copy of the year's totals from OSHA Form 300 and the following information contained on that form:

» Calendar year covered

» Company name and address

» Certification signature, title and date by company executive

» Form OSHA 300A will be used in presenting the summary. If no injuries or illnesses occurred in the year, zeroes will be entered on the totals line, and the form will be posted

» The company will post a copy of the company's summary in each facility in the manner required under 29 CFR 1904 and 1903. The summary will be completed in the detail prescribed in the accompanying instructions provided by OSHA. Computerized versions are acceptable as long as they contain the same information as the OSHA version

Maintaining Record Keeping Forms

The company will maintain records for the following time periods following the end of the year to which they relate:

» Log occupational injuries and illnesses (OSHA 300 or equivalent) as described in 29 CFR 1904.2 - retained for five years

» Supplementary records (OSHA 301 or equivalent) for each occupational injury or illness for the facility as described in 29 CFR 1904.4 - retained for five years

» Employee exposure and medical records for company employees as described in 29 CFR 1910.1020 - retained for 30 years

» Noise exposure measurement records as described in 29 CFR1910.96 - retained for 25 years.

» Audiometric test records as described in 29 CFR 1910.95 - retained for the duration of the affected employee's employment

24 SPILL PREVENTION & RESPONSE PROGRAM

Storing Chemicals

Barnhill Contracting Company will ensure that the hazards of all chemicals used within the facility and worksites are evaluated, and that information concerning their hazards is transmitted to all employees. Chemical substances will be stored in proper containers to minimize the potential for a spill. Whenever possible, chemicals will be kept in closed containers and stored so they are not exposed to storm water.

Spills/Releases

The company will identify and inform all employees of chemicals that may potentially spill or be released. Employees will be advised on the chemicals used at the company or that are brought on to the owner client's worksite.

Spill Prevention Kits

The company will ensure that proper spill kits contain the appropriate supplies for materials that may be spilled. Supplies will be easily accessible when required, and considerations will be made for the type and quantity of materials.

The company will ensure that spill response materials and kits are adequately available by conducting periodic inspections to assess their availability and adjust inventory as needed.

Employee Training

Employees will be trained on the precautions for safe handling, use and proper response procedures for any spilled materials. The training will include materials available for use, proper waste disposal and communication procedures.

Housekeeping

The company will ensure that areas where chemicals may be used or stored will be maintained using good housekeeping best management practices. This includes, but is not limited to, clean and organized storage, labeling and secondary containment where necessary.

Communication

In the event of a spill/release or contamination of a hazardous chemical, employees are instructed to notify their supervisor immediately. The employee must inform their supervisor of the type of chemical spilled/release and the quantity that was released/spilled. This will help determine what proactive measures to take and the procedures for clean up of the chemical.

25 GENERAL WASTE MANAGEMENT PROGRAM

Estimating Waste Generated Per Project

Barnhill Contracting Company will estimate the waste generated prior to work being performed on each project so the need for containers and waste removal, if necessary, can be determined.

Disposing of Waste/Scrap Metal

The company will coordinate with the owner client to ensure proper disposal of waste or scrap materials (i.e. the company will ensure the owner client is aware of whether waste and scrap materials will be taken off site by the company or will be disposed of on the owner client's site).

Individual/Group or Responsible

To ensure proper disposal or reuse, the company will assign responsibility for proper waste or scrap materials to an employee either by title or position. This person will be responsible for the disposal waste generated during work being performed on the project or owner client's site.

Safety Hazards

The company will address safe practices related to the immediate storage and handling of waste, scrap, or leftover materials. Employees will wear proper personal protective equipment when necessary.

Proper Handling, Organization & Storage

The company will ensure that project-related waste is stored and maintained in an organized fashion to encourage proper disposal and minimize risk to employees. For example, proper waste receptacles will be provided for trash and materials that may be reused or recycled during a project.

Waste materials will be properly stored and handled to minimize the potential for a spill or impact to the environment. During outdoor activities, receptacles will be covered to prevent dispersion of waste materials and to control the potential for run-off.

Proper Disposal Methods

Employees will be trained and instructed on the proper disposal method of waste. This may include general instruction on the disposal of non-hazardous waste, trash or scrap materials. If generated waste is classified as hazardous, employees will be trained to ensure proper disposal.

Segregation & Recycling of Waste

The company encourages proper segregation of waste materials to ensure opportunities for reuse or recycling.

26 LONE WORKER PROGRAM

Hazard Assessment

Barnhill Contracting Company considers working alone a hazard and will conduct a hazard assessment to address the hazards and identify control measures to minimize the risk associated with working alone. The hazard assessment is used to anticipate the type of work, travel time, weather, communication, employee medical conditions and training that are required.

Monitoring Device

The company will provide all employees who will be working alone with an effective communication system consisting of:

» Radio communication

» Landline or cellular/satellite telephone communication

» Electronic monitoring device

» Another form of direct and reliable communication that includes regular contact by the company or designated contact at intervals appropriate to the nature of the hazard associated with the employee's work

Check-In/Check-Out Process

The company has a check-in/check-out process for employees working alone. Employees working alone will contact the company at a predetermined interval based on the findings of the hazard assessment.

Contacting Lone Workers

A designated individual will be responsible for checking in with the lone worker at regular intervals. If for some reason, the designated individual is unable to establish contact with the lone worker through

radio, landline or cellular telephone, the designated individual will check in with the lone worker at the jobsite. The designated individual will have the lone worker sign a check-in form that will include the lone worker's status at the time of check-in interval.

27 CONFINED SPACE ENTRY

It is the responsibility of the immediate Supervisor to ensure compliance with this policy on all Barnhill Contracting Company jobsites or property. Project Managers and Supervisors are authorized to halt any operation of the company where there is a danger of serious personal injury, including confined space hazards. A confined space includes all of the following characteristics:

» Large enough that a person can enter and do work

» Limited or restricted means for entry or exit

» Not designed for continuous human occupancy

Examples of confined spaces on company jobsites or property include pits, sewers, trenches and tanks

Confined Spaces Requiring A Permit & Associated Hazards

A permit is required when the potential for one of the following hazards exists:

Hazards	Description
Hazardous atmospheres	Oxygen (0_2) levels outside the range of 19.5-23%. Flammable or explosive levels of gases or vapors in excess of 10% of its lower flammable (LF) limit. Toxic substances in dangerous concentration levels.
Engulfment or Entrapment	Contains material (i.e. sand, aggregate, etc.) with the potential for engulfing the entrant.
Inwardly Converging Walls	Entrant could be trapped or asphyxiated by inwardly converging walls or by a floor, which slopes downward and tapers to a small cross-section
Any Other Serious Hazards	Falls, electrical, mechanical, hydraulic, etc.

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Refer to Lock and Tag Policy if you are unsure of permit status.

Examples of a Pre-Entry Checklist and Confined Space Entry Permit Form are located on pages 126-127. This permit must be completed by the Supervisor before any employee enters the confined space, unless it has been determined through the Pre-Entry Checklist that no hazard exists or through alternate procedures that the atmosphere is safe.

Training

The company's Confined Space Program begins with training procedures for all employees whose duties or responsibilities might expose them to any elements regarding confined space. The company provides this training so that all employees whose work is regulated by this section will acquire the understanding, knowledge and skills necessary for the safe performance of the duties assigned for their position.

Completion of training is mandatory for each employee:

» Before the employee is first assigned duties under this section

» Before there is a change in assigned duties

» Whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained

» Whenever the company has reason to believe that there are deviations from the permit space entry training procedures that are required by his section or there are inadequacies in the employee's knowledge or use of these procedures

The training establishes and documents employee proficiency in their duties and shall introduce new or revised procedures, as necessary, for compliance with this program. The company also certifies that the required training described above has been accomplished. The certification will also include:

» Each employee's name

» Signatures or initials of the trainers

» Dates of training

The certification is available for inspection by employees and their authorized representatives.

Permit Space Overview

The company will develop and implement a written Permit Space Program that has been documented and recorded. This written program shall be available for inspection by employees and their authorized representatives.

The company's Permit Space Program will also:

» Implement the measures necessary to prevent unauthorized entry

» Identify and evaluate the hazards of permit spaces before employees enter them

» Develop and implement the means, procedures and practices necessary for safe permit space entry operations including, but not limited to, the following:

  » Specifying acceptable entry conditions

  » Providing each authorized entrant or that employee's authorized representative with the opportunity to observe any monitoring or testing of permit spaces

  » Isolating the permit space

  » Purging, inverting, flushing or ventilating the permit space as necessary to eliminate or control atmospheric hazards

  » Providing pedestrian, vehicle or other barriers as necessary to protect entrants from external hazards

  » Verifying that conditions in the permit space are acceptable for entry throughout the duration of an authorized entry

Equipment

The company provides and maintains the equipment listed below at no cost to the employee. The company will ensure the proper use of the equipment by:

» Testing and monitoring equipment needed to comply with this program

» Ventilating equipment needed to obtain acceptable entry conditions

» Communications equipment necessary for compliance with this section

» Personal protective equipment insofar as feasible, engineering and work practice controls do not adequately protect employees

» Lighting equipment needed to enable employees to see well enough to work safely and to exit the space quickly in an emergency

» Barriers and shields as required within this program

» Equipment, such as ladders, needed for safe ingress and egress by authorized entrants

» Rescue and emergency equipment needed to comply with this program except to the extent that the equipment is provided by rescue services

» Any other equipment necessary for safe entry into and rescue from permit spaces

Pre-Entry Testing

To evaluate permit space conditions before any entry operations are commenced, use the following controls:

» Test conditions in the permit space to determine if acceptable entry conditions exist before entry is authorized to begin, except that, if isolation of the space is not feasible because the space is large or is part of a continuous system (such as a sewer), pre-entry testing shall be performed to the extent

feasible before entry is authorized and, if entry is authorized, entry conditions shall be continuously monitored in areas where authorized entrants are working

» Test or monitor the permit space as necessary to determine if acceptable entry conditions are being maintained during the course of entry operations

» When testing for atmospheric hazards, test first for oxygen, then for combustible gases and vapors and then for toxic gases and vapors

» Provide each authorized entrant or that employee's authorized representative an opportunity to observe the pre-entry and any subsequent testing or monitoring of permit spaces

A re-evaluation of the permit space in the presence of any authorized entrant of that employee's authorized representative who requests that the company conduct such reevaluation because the entrant or representative has reason to believe that the evaluation of that space may not have been inadequate.

Immediately provide each authorized entrant of that employee's authorized representative with the results of any testing conducted in accordance with this program.

Note: Atmospheric testing conducted in accordance with Appendix B to Section 1910.146 would be considered as satisfying this requirement of this section. The permit space operations in sewers, atmospheric testing conducted in accordance with Appendix B, as supplemented by Appendix E to section 1910.146, would be considered as satisfying the requirements of this section.

Single Attendant

If more than one confined space is to be monitored by a single attendant, means and procedures available to enable the attendant to respond to emergencies in one or more permit spaces that he/she is monitoring without distraction from all responsibilities.

Note: Attendants may be assigned to monitor more than one permit space provided the duties described in paragraph Duties of Company's Attendants can be effectively performed for each permit space.

Multiple Monitoring

If multiple spaces are to be monitored by a single attendant, the company shall establish procedures to be used to allow the attendant to respond to an emergency affecting one or more of the permit spaces being monitored without distracting attendant from his/her responsibilities and maintain a satisfactory level of job performance.

Designated Persons

When work conditions require, the company will compile a list of the following designated persons:

» Authorized entrants

» Attendants

» Entry supervisors

» Persons who test or monitor the atmosphere in a permit space.

The designated person will certify that each employee has completed the required training in accordance with this program. The company will also document and keep on record the duties of each position that is listed above.

Duties of the Company's Authorized Entrants

The company requires that all authorized entrants:

» Know the hazards that may be faced during entry, including information on the mode, signs or symptoms and consequences of the exposure

» Properly use and have been trained on the provided equipment

» Recognizes any warning sign or symptom of exposure to a dangerous situation

» Communicate with the attendant as necessary to enable the attendant to monitor entrant status alert entrants of the need to evacuate the space as required

» Alert the attendant whenever the entrant recognizes any warning sign or symptom of exposure to a dangerous situation or the entrant detects a prohibited condition

» Exit the permit space as quickly as possible whenever an order to evacuate is given by the attendant or entry supervisor

Duties of the Company's Attendants

The company requires that all company attendants:

» Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure

» Are aware of possible behavioral effects of hazard exposure in authorized entrants

» Continuously maintains an accurate count of authorized entrants in the permit space and ensures that the means used to identify authorized entrants detailed in this section accurately identifies who is in the permit space

» Remains outside the permit space during entry operations until relieved by another attendant

» Communicates with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space

» Monitors activities inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit space immediately under any of the following conditions:

  » If the attendant detects a prohibited condition

  » If the attendant detects that behavioral effects of hazard exposure in an authorized entrant

  » If the attendant detects a situation outside the space that could endanger the authorized entrant

- If the attendant cannot effectively and safely perform all the duties required by this program
- Summon rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards
- Takes the following actions when unauthorized persons approach or enter a permit space while entry is underway: Warns the unauthorized persons that they must stay away from the permit space; advise the unauthorized persons that they must exit immediately if they have entered the permit space; inform the authorized persons and the entry supervisor if unauthorized persons have entered the permit space; performs non-entry rescues as specified by the company's rescue procedure and performs no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants

Duties of the Company's Entry Supervisors

The company requires all entry supervisors:

- Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure
- Verifies, by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin
- Terminates the entry and cancels the permit as required by this program
- Verifies that rescue services are available and that the means for summoning them are operable
- Removes unauthorized individuals who enter or who attempt to enter the permit space during entry operations
- Determines, whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space, that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained

Rescue and Emergency Services

The company has developed and implemented procedures for summoning rescue and emergency services for rescuing entrants from permit spaces, for providing necessary emergency services to rescued employees and for preventing unauthorized personnel from attempting a rescue mission.

The company will:

- Evaluate a prospective rescuer's ability to respond to a rescue summons in a timely manner, considering the hazard(s) identified; summon rescue and other emergency services by radio communication or other effective means as soon as the attendant determines that entrants may need assistance to escape from permit space hazards. Attendant shall also notify the entry supervisor of the emergency as soon as feasibly possible. Attendant shall provide first aid services, to the extent of individual training, provided that attention is not taken from monitoring the safety of other permitted spaces

Note: What will be considered timely will vary according to the specific hazards involved in each entry (i.e. 29 CFR 1910.134 Respiratory Protection requires that the company provide standby person(s) capable of immediate action to rescue employee(s) wearing respiratory protection while in work areas as defined by IDLH atmospheres)

- Evaluate a prospective rescue service's ability, in terms of proficiency with rescue-related tasks and equipment, to function appropriately while rescuing entrants from the particular permit space or types of permit spaces identified
- Select a rescue team or service from those evaluated that:
  - Has the capability to reach the victim(s) within a time frame that is appropriate for the permit space hazard(s) identified and is equipped for and proficient in, performing the needed rescue services
  - Inform each new rescue team or service of the hazards they may confront when called on to perform rescue at the site
  - Provide the rescue team or service selected with access to all permit spaces from which rescue may be necessary so that the rescue service can develop appropriate rescue plans and practice rescue operations
- The company's employees who have been designated to provide permit space rescue and emergency services will take the following measures:
  - Provide affected employees with the personal protective equipment (PPE) needed to conduct permit space rescues safely and train affected employees so they are proficient in the use of that PPE, at no cost to the employee
  - Train affected employees to perform assigned rescue duties ensuring that such employees successfully complete the training required to establish proficiency as an authorized entrant
  - Train affected employees in basic first aid and cardiopulmonary resuscitation (CPR). The company shall ensure that at least one member of the rescue team or service holding a current certification in first aid and CPR is available
  - Ensure that affected employees practice making permit space rescues at least once every 12 months, by means of simulated rescue operations in which they remove dummies, manikins or actual persons from the actual permit spaces or from representative permit spaces. Representative permit spaces shall simulate the types of permit spaces from which rescue is to be performed with respect to opening size, configuration and accessibility

To facilitate non-entry rescue, retrieval systems or methods shall be used whenever an authorized entrant enters a permit space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. Retrieval systems shall meet the following requirements:

- Each authorized entrant shall use a chest of full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level, above the entrant's head, or at another point which the company can establish presents a profile small enough for the successful removal of the entrant

» Wristlets may be used in lieu of the chest or full body harness if the company can demonstrate that the use of a chest or full body harness is infeasible or creates a greater hazard and that the use of wristlets is the safest and most effective alternative

» The other end of the retrieval line shall be attached to a mechanical device or fixed point outside the permit space in such a manner that rescue can begin as soon as the rescuer becomes aware that rescue is necessary. A mechanical device shall be available to retrieve personnel from vertical type permit spaces more than five feet (1.52 m) deep

If an injured entrant is exposed to a substance for which a Safety Data Sheet or other similar written information is required to be kept at the worksite, that SDS or written information shall be made available to the medical facility treating the exposed entrant.

Multiple Employer Procedures

The company's policy for a multiple employer worksite is to take complete control of the permit space and procedures. **Exceptions:** If they receive written documentation from a certified company or organization requesting the release of the permit space control and procedures to coordinate entry operations where employees of more than one employer are working simultaneously as authorized entrants in a permit space, so that employees of one employer to not endanger the employees of any other employer.

Entry Permits

A permit signed by the entry supervisor will be posted at all entrances and will otherwise be made available to entrants before they enter the permit space. The permit must verify that pre-entry preparations outlined in this section have been completed. The duration of entry permits must not exceed the time required to complete an assignment.

Entry permits must include:

» Permit space to be entered

» Purpose of the entry

» Date and authorized duration of the entry permit

» Authorized entrants within the permit space, by name or by such other means (i.e. through the use of rosters or tracking systems) as will enable the attendant to determine quickly and accurately, for the duration of the permit, which authorized entrants are inside the permit space. **Note:** This requirement may be met by inserting a reference on the entry permit as to the means used, such as roster or tracking system, to keep track of the authorized entrants within the permit space

» Personnel, by name, currently serving as attendants

» Individual, by name, currently serving as entry supervisor, with a space for the signature or initials of the entry supervisor who originally authorized entry

» Hazards of the permit space to be entered

» Measures used to isolate the permit space and to eliminate or control permit space hazards before

entry. **Note:** Those measures can include the lockout or tagging of equipment and procedures for purging, inverting, ventilating and flushing permit spaces

» Acceptable entry conditions

» Results of initial and periodic tests performed under this section, accompanied by the names and initials of the testers and by an indication of when the tests were performed

» Rescue and emergency services that can be summoned and the means (such as the equipment to use and the numbers to call) for summoning those services

» Communication procedures used by authorized entrants and attendants to maintain contact during the entry

» Equipment, such as personal protective equipment, testing equipment, communications equipment, alarm systems and rescue equipment to be provided for compliance with this section

» Any other information that is necessary, given the circumstances of the particular confined space, in order to ensure employee safety

» Any additional permits, such as for hot work, that have been issued for authorized work in the permit space

Concluding/Canceling Entry Permits

Upon completion of operations within a permitted confined space, the lead worker will:

» Close off the permitted confined space

» Return the entry permit to the entry supervisor for cancellation

The entry supervisor will cancel entry and entry permit when the entry operations covered by the entry permit have been completed and a condition that is not allowed under the permit arises in or near the permit space. New conditions will be noted on the cancelled permit and used in revising the permit space program. The standard requires that the company maintain all cancelled entry permits for at least one year.

Unauthorized Entry

A review of entry operations will be implemented at any time when the company has reason to believe that the measures taken under the permit space program may not protect employees and will revise the program to correct deficiencies found to exist before subsequent entries are authorized. **Note:** Examples of circumstances requiring the review of the permit space program are: any unauthorized entry of a permit space, detection of a condition prohibited by the permit, occurrence of an injury or near-miss during entry, change in the use or configuration of a permit space and employee complains about the effectiveness of the program.

Review of Procedures

The company will perform an annual review covering all entries performed during the last 12-month period. **Exception:** If no entries were performed during the 12-month period, no review is necessary.

The company will review the permit space program, using the cancelled permits retained within one year after each entry and revise the program as necessary, to ensure that employees participating in entry operations are protected from permit space hazards.

Air Testing & Monitoring

Barnhill Contracting Company will evaluate every workplace to determine if any spaces are permit-required confined spaces. If a workplace contains permit spaces, the company will inform exposed employees and other employees performing work in that area, by posting danger signs or by any other equally effective means, of the existence, location of and the danger posed by the permit spaces. **Note:** A sign reading "DANGER - PERMIT REQUIRED CONFINED SPACE, DO NOT ENTER" or other similar language would satisfy the requirement for a sign.

If the company decides that its employees will enter permit spaces, the company's Confined Space Program must be implemented. The written program shall be available for inspection by employees and their authorized representatives and will include:

» Testing or monitoring of the confined space as necessary to determine if acceptable entry conditions are being maintained during the course of entry operations

» When testing for atmospheric hazards, test first for oxygen, then for combustible gases and then for toxic gases and vapors

» Provide each authorized entrant or that employee's authorized representative an opportunity to observe the pre-entry and subsequent testing or monitoring of permit spaces

Re-Evaluation

The company will re-evaluate the permit space in the presence of any authorized entrant or the employee's authorized representative who requests the company conduct such re-evaluation because the entrant or representative has reason to believe that the evaluation of that space have been inadequate.

Jobsite Name: _____

Date & Time Issued: _____

BARNHILL CONTRACTING COMPANY

PRE-ENTRY CHECKLIST

Job to be Performed: _____

PRE-ENTRY

Atmosphere Checks:	Time: _____	
	Oxygen: _____	%
	Explosive: _____	% L.F.L.
	Toxic: _____	P.P.M.
Source Isolation (no entry):	( ) N/A ( ) Yes ( ) No	
Pumps or lines blinded, disconnected or blocked:	( ) N/A ( ) Yes ( ) No	

VENTILATION

Mechanical:	( ) N/A ( ) Yes ( ) No	
Natural Ventilation Only:	( ) N/A ( ) Yes ( ) No	
Atmospheric Check After Isolation and Ventilation:	Time: _____	
	Oxygen: _____	%
	Explosive: _____	% L.F.L.
	Toxic: _____	P.P.M.
Engulfment or entrapment hazards:	( ) N/A ( ) Yes ( ) No	
Walls of the space converge to a small area of floor sloping?	( ) N/A ( ) Yes ( ) No	
Other serious hazards? (e.g. electrical, mechanical, pneumatic)	( ) N/A ( ) Yes ( ) No	
Additional hazards to be introduced? (e.g. welding fumes, cleaning solvents)	( ) N/A ( ) Yes ( ) No	

If conditions are in compliance with the requirements above and there is no reason to believe conditions may change adversely, then proceed to enter the space withour a permit (exception: safety harness and lifeline if space is greater than five feet deep).

If conditions are **NOT** in compliance with the requirements above or if there is reason to believe that conditions may change adversely, proceed to the Permit Form.

Checklist Prepared by: _____ (competent person)

Approved by: _____ (supervisor)

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BARNHILL CONTRACTING COMPANY

ENTRY PERMIT

_____ Confined Space _____ Hazardous Area Permit No._____

*Permit valid for 8 hours only *All copies of permit will remain at jobsite until job is completed

Site Location/Description: _____

Purpose of Entry: _____

Date: _____ Permit Expiration Date/Time: _____

Crew Supervisor: _____ Type of Crew: _____ Phone: _____

Requirements to be completed prior to entry (bold denotes minimum requirements to be completed and reviewed prior to entry, Enter N/A for items that do not apply):

	Date	Time		Date	Time
Lock Out/De-Energize/Try Out	____	____	**Lifelines**	____	____
Line(s) Broken - Capped - Blanket	____	____	**Resuscitator - Inhilator**	____	____
Purge - Flush and Vent	____	____	**Standby Safety Personnel**	____	____
Ventilation	____	____	**Full Body Harness (with D ring)**	____	____
Breathing Aparatus	____	____	Fire Extinguishers	____	____
Emergency Escape Retrieval Equipment	____	____	Lighting (explosive proof)	____	____
Communication Device(s)	____	____	Protective Clothing	____	____
Atmosphere Monitoring Device(s)	____	____	Respirator(s) (air purifying)	____	____
Secure Area (pose and flag)	____	____	Burning and Welding Permit	____	____

Continuous Monitoring (results to be recorded every 2 hours)
(+ indicates 8-hour time-weighted average: employee can work in area 8 hours or longer with an appropriate respitory system/* indicates short-term exposure limit: employee can work in the area up to 15 minutes)

Test	**Permissable Levels**	**Monitoring Results (record time of each test)**
Percent of Oxygen	19.5-23.5%	____ ____ ____ ____ ____ ____ ____ ____
Lower Flammable Limit	Under 10%	____ ____ ____ ____ ____ ____ ____ ____
Carbon Monoxide	+35 PPM	____ ____ ____ ____ ____ ____ ____ ____
Methane	+1 PPM *5 PPM	____ ____ ____ ____ ____ ____ ____ ____
Hydrogen Sulfide	+10 PPM *15 PPM	____ ____ ____ ____ ____ ____ ____ ____
Sulfur Dioxide	+2 PPM *5 PPM	____ ____ ____ ____ ____ ____ ____ ____
Other		____ ____ ____ ____ ____ ____ ____ ____

Remarks: _____

Gas Tester Name & Check No. _____ Instruments Used:_____

Model/Type:_____ Serial No./Unit No._____

Rescue Procedure:_____

Contacts: Ambulance_____ Safety_____ Fire_____ Rescue_____ Gas Coordinator_____

Permit Authorization (pink copy to Safety Department): I certify that all required precautions have been taken and necessary equipment is provided for safe entry and work in this space.

_____ _____ _____

name signature date

Required Safety Standby Personnel _____ Check No. _____

Required Safety Standby Personnel _____ Check No. _____

Authorized Entrants _____ Check No. _____

Authorized Entrants _____ Check No. _____

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28 LOCKOUT/TAGOUT PROGRAM

Program Implementation

The company has established a program that will utilize procedures for affixing appropriate lockout devices or tagout devices to energy isolating devices, and to otherwise disable machines or equipment to prevent unexpected energization, start-up or release of stored energy including electrical, steam, hydraulic, tension, gravity, etc. in order to prevent injury to employees.

Definitions

Affected Employee - An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in area in which such servicing or maintenance is being performed.

Authorized Employer - A person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered under this section.

Capable of Being Locked Out - An energy-isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild or replace the energy-isolating device or permanently alter its energy control capability.

Energized - Connected to an energy source or containing residual or stored energy.

Energy-Isolating Device - A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: A manually operated electrical circuit breaker; disconnect switch; manually operated switch by which the conductors of a circuit can be disconnected from all underground supply conductors, and, in addition, no pole can be operated independently; line

valve; block; and any similar device used to block or isolate energy. Push buttons, selector switches and other control circuit type devices are not energy-isolating devices.

Energy Source - Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal or other energy.

Hot Tap - A procedure used in the repair, maintenance and service activities which involves welding on a piece of equipment (pipelines, vessels or tanks) under pressure in order to install connections or appurtenances. It is commonly used to replace or add sections of pipeline without the interruption of service for air, gas, water, steam and petrochemical distribution systems.

Lockout - The placement of a lockout device on an energy-isolating device, in accordance with an established procedure, ensuring that the energy-isolating device and equipment being controlled cannot be operated until the lockout device is removed.

Lockout Device - A device that utilizes a positive means such as a lock, either key or combination type, to hold an energy-isolating device in the safe position and prevent the energizing of a machine or equipment. Blank flanges and bolted slip blinds are included.

Normal Production Operations - The utilization of a machine or equipment to perform its intended production function.

Servicing and/or Maintenance - Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying and maintaining, and/or servicing machines or equipment. These activities include lubrication, cleaning, unjamming of machines or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or start-up of the equipment or release of hazardous energy.

Setting Up - Any work performed to prepare a machine or equipment to perform its normal production operation.

Tagout - The placement of a tagout device on an energy-isolating device, in accordance with an established procedure, to indicate that the energy-isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Tagout Device - A prominent warning device, such as a tag, and a means of attachment, which can be securely fastened to an energy-isolating device in accordance with an established procedure, to indicate that the energy-isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Training & Communication

The Safety Director is the primary individual responsible for the company's Lockout/Tagout Program. He/she will provide training to ensure that the purpose and function of the energy control procedures are understood by employees and that the knowledge and skills required for the safe application, usage and removal of energy controls are acquired by employees. The training shall include the following:

» Each authorized employee shall receive training in the recognition of applicable hazards and energy sources

» Type and magnitude of the energy available in the workplace

» Methods and means necessary for energy isolation and control

Each affected employee will also receive training procedures for affixing appropriate lockout devices or tagout devices to energy-isolating devices, and to otherwise disable machines or equipment to prevent unexpected energization, start-up or release of stored energy in order to prevent injury to employees.

Procedure Limitations

All employees whose work operations are, or could possibly be, in an area where energy control procedures may be utilized, shall be instructed in the logout/tagout procedure, and about prohibiting the restart or reenergizing of machines or equipment that is locked out or tagged out.

When tagout systems are used, employees are required to be training in the following limitations:

» Locks provide physical restraint on devices, tags are essentially warning devices affixed to energy-isolating devices, and do not provide restraint

» When a tag is attached to an energy-isolating device, it is not to be removed without approval of the authorized person responsible for it, and it is never to be bypassed, ignored or otherwise defeated

» To be effective, tags must be legible and understandable to all employees whose work operations are, or may be, in the affected area

» Tags and their means of attachment are to be made of materials that will withstand the environmental conditions encountered in the workplace

» Tags may evoke a false sense of security, therefore the tag meaning needs to be understood as part of the overall energy control program

» Tags must be securely attached to energy-isolating devices so that they cannot be inadvertently or accidently detached during use

Employee Re-Training

The company's safety policy mandates that employees training to be comprehensive and the documentation of training is kept up to date. The company will issue certification for completion of the Lockout/Tagout Training Program which will contain each employee's name and the dates of training.

Re-training is provided to all authorized and affected employees whenever there is a change in their job assignment, a change in machine, equipment or processes that present a new hazard or when there is a change in the energy control procedures.

Additional re-training shall also be conducted whenever the company has reason to believe that there are deviations from, or inadequacies in, the employee's knowledge or use of the energy control procedures.

The retraining shall reestablish employee proficiency and introduce new or revised control methods and procedures, as necessary.

Energy Control Procedures

The following Energy Control Procedures have been developed by the company to utilize and control

potentially hazardous energy when employees are engaged in any activities defined in this section.

Scope

This covers the servicing and maintenance of machines and equipment in which the unexpected energization or start-up of the machines or equipment, or release of stored energy could cause injury to employees.

Application of Control

The company has integrated the following procedures for the application of energy control (the lockout or tagout procedures). These will be performed in the following sequence:

1. Preparation for Shutdown - Before an authorized or affected employee turns off a machine or piece of equipment, the authorized employee shall have knowledge of the type and magnitude of the energy, hazards of the energy to be controlled and the method or means to control the energy
2. Machine or Equipment Shutdown - The machine or equipment shall be turned off or shut down using the procedures established for the machine or equipment. An orderly shutdown must be utilized to avoid any additional or increased hazard(s) to employees due to the equipment stoppage
3. Machine or Equipment Isolation - All energy-isolating devices that are needed to control the energy to the machine or equipment, shall be physically located and operated in such a manner as to isolate the machine or equipment from the energy source(s)

Lockout/Tagout Devices

Protective Materials & Hardware

Locks, tags, chains, wedges, key blocks, adapter pins, self-locking fasteners or other hardware shall be provided by the company for isolating, securing or blocking of machines or equipment from energy sources.

Lockout devices and tagout devices shall be similarly identified; shall be the only device(s) used for controlling energy; shall not be used for other purposes and shall meet the following requirements:

Durable - Lockout and tagout devices shall be capable of withstanding the environment to which they are exposed for the maximum period of time

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that exposure is expected. Tagout devices shall be constructed and printed so that exposure to weather conditions or wet and damp locations will not cause the tag to deteriorate or the message on the tag to become illegible. Tags shall not deteriorate when used in corrosive environments such as areas where acid and alkali chemicals are being handled or stored.

Standardized - Lockout and tagout devices shall be standardized within the facility in at least one of the following criteria:

» Color

» Shape

» Size

Additionally, in the case of tagout devices, print and format will be standardized.

Substantial - Lockout devices shall be substantial enough to prevent removal without the use of excessive force or unusual techniques, such as the use of bolt cutters or other metal cutting tools. Tagout devices, including their means of attachment, shall be substantial enough to prevent inadvertent or accidental removal. Tagout attachment means shall be of a non-reusable type, attachable by hand, self-locking and non-releasable with a minimum unlocking strength of no less than 50 pounds and have the general design and basic characteristics of being at least equivalent to a one-piece, all environment-tolerant nylon cable case.

Identifiable - Lockout devices and tagout devices shall indicate the identity of the employee applying the device(s). Tagout devices shall warn against hazardous conditions; if the machine or equipment is energized; and shall include a legend such as the following:

» DO NOT START

» DO NOT OPEN

» DO NOT CLOSE

» DO NOT ENERGIZE

» DO NOT OPERATE

Lockout or Tagout Device Application

Lockout or tagout devices shall be affixed to each energy-isolating device by authorized employees.

Lockout devices, where used, shall be affixed in a manner so that the energy-isolating devices are in a "safe" or "off" position.

Tagout devices, where used, shall be affixed in such a manner that will clearly indicate that the operation and movement of energy-isolating devices from the "safe" or "off" position is prohibited.

Where tagout devices are used with energy-isolating devices designed with the capability of being locked, the tag attachment shall be fastened at the same point at which the lock would have been attached.

Where a tag cannot be affixed directly to the energy-isolating device, the tag shall be located as close

as safely possible to the device, in a position that will be immediately obvious to anyone attempting to operate the device.

Stored Energy

Following the application of lockout or tagout devices to energy-isolating devices, all potentially hazardous stored or residual energy shall be relieved, disconnected, restrained and otherwise rendered safe.

If there is a possibility of re-accumulation of stored energy to a hazardous level, verification of isolation shall be continued until the servicing or maintenance is completed, or until the possibility of such accumulation no longer exists.

Group Lockout or Tagout

When servicing or maintenance is performed by a crew, craft, department or other group, they shall utilize a procedure which grants the employees a level of protection equivalent to that provided by the implementation of a personal lockout or tagout device.

Group lockout or tagout devices used in accordance with the procedures required by this program, including, but not necessarily limited to the following requirements:

Primary responsibility is vested in an authorized employee for a set number of employees working under the protection of a group lockout or tagout device (such as an operations lock).

Provision for the authorized employee to ascertain the exposure status of individual group members with regard to the lockout or tagout of the machine or equipment.

When more than one crew, craft, department, etc. is involved, assignment of overall job-associated lockout or tagout control responsibility to an authorized employee designated to coordinate affected work forces and ensure continuity of protection.

Each authorized employee shall affix a personal lockout or tagout device to the group lockout device, group lockbox, or comparable mechanism when he or she begins work, and shall remove those devices when he or she stops working on the machine or equipment being serviced or maintained.

Authorized Employee

A person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered within this program.

29 TRANSPORTING & HANDLING HAZARDOUS MATERIALS

Barnhill Contracting Company recognizes the Hazardous Material Regulations located in CFR 49 Parts 100-177 as law when transporting and using all applicable hazardous materials in our daily operations. The company makes every effort to recognize, mark, label and placard the applicable materials set forth in the Hazardous Material Regulations.

Barnhill Contracting Company ensures all drivers considered to be HAZMAT employees possess and maintain a current Commercial Drivers License (CDL) and the necessary endorsement to transport the materials that are defined as hazardous materials. Additionally, the company trains all HAZMAT employees and their supervisors in the required areas of hazardous material and security awareness. This training is performed within 90 days of employment or job transfer and recurrent training is performed in three year intervals.

As a carrier, Barnhill Contracting Company requires each shipment of HAZMAT to carry the appropriate shipping paper or bill of lading as well as emergency response information. This ensures the safety of the driver and the general public as well as the environment when materials are in transit. The company provides each driver with emergency spill information and contact information in the event of a spill or HAZMAT incident. All HAZMAT employees must read and understand the contents of this policy and follow all rules of hazard communication while loading, unloading and transporting identified hazardous materials.

Hazardous Materials

Transporting hazardous materials involves a number of regulations concerning packaging, markings and labels, shipping papers, proper material descriptions, placarding, driver's license, driver training, designated routes, emergency response, drivers' hours of service logs, parking restrictions, etc. The intent of this policy is to provide an overview and reference applicable regulations.

A hazardous material is a substance or material including a hazardous substance, hazardous waste, marine pollutant or elevated-temperature material which the Secretary of Transportation has been determined and designated to be capable of posing an unreasonable risk to health, safety and property when transported in commerce. A listing of these materials is available in 49 CFR 172.101, 102 and the Appendix to 172.101.

While some materials are clearly recognized as hazardous, many common items are also including paint, pesticides and insecticides, batteries, cleaning solvents and compressed oxygen. There are numerous exceptions pertaining to total quantity shipped, size of each individual container, amount loaded at one stop, etc. Many items do not require placards, unless there is a combined total of more than 1,000 pounds or more on one truck; however, some items require placards for any amount. Most regulations can be found in 49 CFR parts 100-177.

The shipper is responsible for properly preparing hazardous materials for transportation, including proper markings, labels, shipping papers and placards. However, that does not relieve the carrier of the responsibility to ensure the materials offered for shipment are prepared according to regulation. Obvious indications are boxes or drums having hazardous markings or labels and any material noted on the shipping papers that include a UN or NA number (i.e. a typical description is: paint related materials, 3, UN1263, II). If the proper shipping name is incorrect, or not in the proper order, this may result in significant fines to the motor carrier during a roadside inspection or DOT audit.

Applicable provisions to the transportation of hazardous materials by private and for-hire transporters include:

» Compliance with federal, state and local requirements. Transportation must be in compliance with all other provisions of the Federal Motor Carrier Safety Regulations (Part 397) and all state and local requirements unless the regulations are less stringent than comparable requirements of the Federal Motor Carrier Safety Regulations (Part 397)

» Vehicles must not be parked on, or within five feet of a roadway unless operating conditions preclude parking elsewhere. The vehicle must be attended by the driver unless it is necessary for the driver to leave because of the nature of his/her duties

» Shipping papers must be visible while en route and within reach of the driver

» If practical, drivers must avoid operating in congested areas or narrow streets. Some cities and tunnels do not allow placarded loads. Many states require a permit or registration fee to transport a placarded load. The federal government requires a registration for shippers and carriers meeting certain criteria

» A vehicle must not operate near an open flame unless the driver has determined that it can be done safely. The vehicle must not be parked within 300 feet of an open fire

» Smoking is prohibited within 25 feet of any vehicle transporting explosives, oxidizing materials, flammable liquids, flammable solids, or flammable gases

» Smoking is prohibited within 25 feet of an empty tank vehicle which must be placarded for the transportation of flammable gases of liquids

» The engine must be off and a person must be in physical control of the nozzle while fueling

» Tires must be checked at the start of a trip and each time the vehicle is parked. If an overheated tire is found, the driver must correct the cause of overheating before continuing to drive

» A commercial driver's license (CDL) with a hazardous materials endorsement is required for a driver of any size vehicle required to be placarded for transporting hazardous materials

» Before any hazardous materials are transported, the company must ensure that the shipment is in the proper container with the correct labels, that the driver is trained and has the correct shipping papers and the vehicle displays the correct placards. Requirements can be found in the Federal Motor Carrier Safety Regulations, Part 397

» All HAZMAT employees are required to have HAZMAT training per 49 CFR 172.704. The purpose of the training requirements is to ensure each HAZMAT employer trains its HAZMAT employees regarding safe loading, unloading, handling, storing and transporting of hazardous materials and emergency preparedness for responding to accidents or incidents involving the transportation of hazardous materials

A HAZMAT employer must train and test every HAZMAT employee who in the course of employment directly affects hazardous material's transportation safety. A HAZMAT employee refers to an individual, including a self-employed individual who, during the course of employment:

» Loads, unloads or handles hazardous materials

» Tests, reconditions, repairs, modifies, marks or otherwise represents containers, drums or packaging as qualified for use in the transportation of hazardous materials

» Prepares hazardous materials for transportation

» Is responsible for safety of transporting hazardous materials

» Operates a vehicle used to transmit hazardous materials. This includes any amount of hazardous materials being transported in commerce

Hazardous materials training shall include:

» General awareness/familiarization training designed to provide familiarity with the requirements of the hazardous materials regulations and to enable the employee to recognize and identify hazardous materials consistent with the hazard communication standards in the hazardous materials regulations

» Function-specific training concerning the hazardous materials regulations which are specifically applicable to the functions the employee performs

» Safety training concerning the emergency response information measures to protect the employee from hazards associated with the materials to which they may be exposed to in the workplace, and the methods and procedures of avoiding accidents

A HAZMAT employee who repairs, modifies, reconditions or tests packaging as qualified for use in the transportation of hazardous materials and who does not perform any other function subject to the regulations does not have to receive safety training.

Requirements for Loading & Unloading HAZMAT

While loading and unloading HAZMAT, employees should:

» Pre-trip the vehicle before it is put into operation

» Close all manholes, valves and lines before the vehicle is placed in motion

» Check all tanks, gaskets, hoses and valves for leaks before the vehicle is put into motion

» Properly check and secure the vehicle loading and unloading

» Remain at the nozzle at all times when fueling service tanks or vehicles carrying hazardous materials. This includes distributing fuels and oils into the tanks of heavy equipment

» Obey state and federal laws concerning no smoking while using flammable and combustible liquids at all times

» Secure all cargo, including materials of trade, before beginning each trip and check often

» Immediately report all spills and accidents

» Complete all required paperwork in a timely manner

30 DRIVER SAFETY PROGRAM

Accident prevention is the responsibility of every driver at Barnhill Contracting Company. There is no place within the company for those who does not obey traffic laws or who takes unnecessary risks. Safety should be your primary responsibility when operating a company vehicle.

Driver Selection

It is a privilege, not a right, to drive a Barnhill Contracting Company-owned vehicle. Before anyone in the company is allowed to drive a company vehicle, a current two-year Motor Vehicle Report (MVR) must be obtained. The MVR will then be obtained on an annual basis. Only those employees approved by Barnhill Contracting Company are permitted to drive a company vehicle.

Minimum Driver Eligibility Criteria

» 21 years of age

» Possess a valid driver's license issued by the Department of Motor Vehicles

» Have less than 25 points within the previous 24 months as reflected on the MVR using the form shown below:

MVR POINTS SYSTEM EVALUATION	
Violations/Convictions	Points per Violation
DWI, DUI or refusal to test	25
Leaving scene of an accident	25
Reckless driving	25
Currently suspended license	25
Vehicular homicide	25
Speeding (less than 10mph over speed limit)	5

Speeding (10-14mph over speed limit)	8
Speeding (15mph or more over speed limit)	10
Failure to obey traffic device	8
Failure to yield right of way	8
Passing stopped school bus	13
Driving on the wrong side of the road	8
Illegal passing	8
Following too closely	8
All other moving violations	5
Non-moving violations	3
Major preventable accident	13
Other preventable accident	8

Permitted Users

Authorized employees who meet the Minimum Driver Eligibility Criteria contained above and who have a Barnhill Contracting Company driver's license may drive company-owned vehicles. Occasional drivers of company-owned vehicles and employees who drive their personal vehicle for company business, must also meet the requirements listed above and have a Barnhill Contracting Company driver's license.

Prohibited Actions

The following actions are prohibited and may result in the immediate revocation of driving privileges:

» Driver must not operate a vehicle at any time when his/her ability to do so is impaired, affected, influenced by alcohol, illegal drugs, prescribed or over-the counter medication, illness, fatigue or injury

» Drivers must not use radar detectors, laser detectors or similar devices

» Drivers must not tow, push or pull another vehicle or trailer, unless authorized

» Drivers must not transport any hazardous materials, unless authorized

Offering Assistance to Disabled Motorists

Drivers must not assist disabled motorists or accident victims beyond their level of medical expertise. If a driver is unable to provide the proper medical care, he/she must restrict his/her assistance to the notification of proper authorities.

Reporting Accidents & Violations

Drivers and permitted users must adhere to the following accident, license suspension and violation reporting criteria:

» Accidents must be reported immediately

» License suspension or revocation of driving privileges must be reported the next business day

» Moving violations must be reported within three business days of conviction

» Serious moving violations must be reported within one day of citation. Serious moving violations include driving while impaired or intoxicated, reckless driving, leaving the scene of an accident and speeding that is equal to, or greater than, 15mph over the posted speed limit

Cooperation with Company Management & Law Enforcement Agencies

Drivers and permitted users must cooperate with company officials and/or law enforcement agencies in matters such as violation of company policies and/or accident investigation.

Seat Belt Use

Occupants of vehicles are required to wear safety belts when the vehicle is in motion. The driver is responsible for ensuring passengers wear their safety belts. Drivers must comply with applicable local, state and federal child safety seat requirements.

Compliance with Traffic Laws

Drivers must abide by federal, state and local motor vehicle regulations, laws and ordinances.

Evaluating At-Risk Behavior

Barnhill Contracting Company uses the MVR Point System Evaluation to minimize at-risk behavior, which causes accidents, injuries and property damage. Each current and prospective driver must meet these standards to qualify for and maintain his/her Company vehicle driving privileges. Each driver will be evaluated using this system Evaluations will occur prior to granting driving privileges and at least once every year thereafter.

Driver Improvement Clinics

If a driver is convicted of a motor vehicle violation points may be placed against your driving record. If the driver accumulates seven points, he/she may be assigned to a Driver Improvement Clinic by a court or Hearing Officer. Upon satisfactory completion of the clinic, three points are deducted from the driver's record. Drivers are eligible to attend driving improvement clinics once every five years to reduce points.

Accident Scene Procedures

Employees should take the following actions when there are injuries to people and/or damage to other vehicles or property:

» Stop immediately and determine the damage

» Avoid obstructing traffic or creating a greater hazard

» Check on the other party to determine if they need medical attention. As a reminder, company policy on offering assistance is that drivers must not assist disabled motorists or accident victims beyond their level of medical expertise. If a driver is unable to provide the proper medical care, he/she must restrict his/her assistance to the notification of proper authorities

» Contact the police and emergency services

» Protect the scene of the accident

» Place emergency reflectors, flares, lanterns or flags

» Contact your company representative.

» If possible, exchange insurance and other information from the other party involved but do not discuss the accident

» Get witness information

» Take photos of the accident scene, if it is safe to do so

» Do not make any statements (other than to police, company officials and company insurance representatives), admit fault or sign anything

Note: Accident reporting kits are contained in each company vehicle. The kit contains a brochure describing your accident scene responsibilities, a disposable camera, pen or pencil and accident form.

Accident Review

Accidents will be reviewed by the driver's immediate supervisor and a representative from the Safety Department. The review will be based on driver and police reports and available witness accounts. The purpose of the review is to collect the necessary information to defend the company in any litigation proceedings, determine accident preventability and to consider improvements to avoid future accidents.

Accident Classifications

Non-Preventable Accidents

Accidents that occur despite the fact that the driver exercised every reasonable precaution to avoid the incident. Examples of non-preventable accidents include, but are not limited to:

» Animal strikes

» Struck while legally parked

» Struck by other vehicle while stopped in traffic

Preventable Accidents

An accident, as ruled by the review committee, where the driver failed to exercise every reasonable precaution to avoid the incident.

Major Preventable Accidents

A preventable accident arising from a lane change, rear end collision or intersection incident which resulted in a fatality, injury requiring treatment away from the scene or disabling damage (tow away) to any vehicle.

Maintenance & Garaging

Drivers are not expected to perform maintenance tasks on vehicles, unless it is the functional responsibility of an employee. However, it is the responsibility of drivers to become familiar with

established vehicle maintenance and garaging practices.

Maintenance And Inspections

Drivers must ensure that the vehicle is well maintained and safe to operate. Drivers should be cognizant of the appearance of the vehicle, including the condition of the upholstery, body, paint, decals, windows and overall general condition. Drivers must ensure that the applicable state vehicle inspection and registration is current and valid.

Drivers should conduct routine vehicle inspections to ensure the vehicle is in safe operating condition. Such inspections should be documented using the Vehicle Inspection Form and include the following:

» Fluid levels and scheduled changes (oil level, brake fluid, transmission fluid, window washer fluid and cooling system fluid)

» Oil or grease leaks in, around or under the vehicle

» Belts and hoses (cracks, swells, wear and tear)

» Tires (inflation and tread wear)

» Wheels, rims and fasteners

» Lights, reflectors and mirrors

» Wipers and washers, air conditioner, heater, defroster(s)

» Brakes (service, parking, emergency)

In the event of a defect, the driver must take action to repair the defect. Repairs outside the scope of normal wear and routine maintenance must be authorized by the Fleet Manager and performed at company-approved facilities.

Cell Phone Use While Driving

Using a cell phone while driving is dangerous. If a driver must make or receive a call he/she must pull over to a safe area. Using a cell phone while driving is a safety violation and will be documented as such. The only exception that may be considered is if a hands free device is being used. The use of a cell phone or similar device in any work zone is not allowed.

Texting or the use of any electronic device while driving is against the law and will not be tolerated. This also includes dialing a full number without the use of one touch dialing. If cited by law enforcement or if any driver is found to be negligent, the driver may be subject to the disciplinary action described below.

» Verbal warning

» Written warning

» Final written warning

» Dismissal

Additional Procedures for Commercial Motor Vehicle Drivers

These additional requirements are designed to enforce the Federal Motor Carrier Safety (FMCSA) regulations to comply with the Compliance, Safety, Accountability (CSA) and the Safety Measurement System (SMS). This system is used to measure both the company (carrier) and driver. To comply with these measurement systems and to maintain an acceptable safety performance score, Barnhill Contracting Company must be proactive in road safety and continually improve our compliance with federal regulations.

SMS uses a motor carrier's data from roadside inspections, including all safety-based violations, state-reported crashes and the federal motor carrier census to quantify performance in the following Behavior Analysis and Safety Improvement Categories (BASICs). CSA BASICs include:

Unsafe Driving – Operation of commercial motor vehicles (CMVs) by drivers in a dangerous or careless manner. Example violations: Speeding, reckless driving, improper lane change, and inattention. (FMCSR Parts 392 and 397)

Hours-of-Service (HOS) Compliance – Operation of CMVs by drivers who are ill, fatigued or in non-compliance with the HOS regulations. This BASIC includes violations of regulations pertaining to records of duty status (RODS) as they relate to HOS requirements and the management of CMV driver fatigue. Example violations: HOS RODS, and operating a CMV while ill or fatigued. (FMCSR Parts 392 and 395)

Driver Fitness – Operation of CMVs by drivers who are unfit to operate a CMV due to lack of training, experience or medical qualifications. Example violations: Failure to have a valid and appropriate commercial driver's license (CDL) and being medically unqualified to operate a CMV. (FMCSR Parts 383 and 391)

Controlled Substances/Alcohol – Operation of CMVs by drivers who are impaired due to alcohol, illegal drugs, and misuse of prescription or over-the-counter medications. Example violations: Use or possession of controlled substances/alcohol. (FMCSR Parts 382 and 392)

Vehicle Maintenance – Failure to properly maintain a CMV and/or properly prevent shifting loads. Example violations: Brakes, lights, and other mechanical defects, failure to make required repairs, and improper load securement. (FMCSR Parts 392, 393 and 396)

Hazardous Materials (HM) Compliance – Unsafe handling of HM on a CMV. Example violations: Release of HM from package, no shipping papers (carrier), and no placards/markings when required. (FMCSR Part 397 and Hazardous Materials Regulations Parts 171, 172, 173, 177, 178, 179, and 180)

Crash Indicator – Histories or patterns of high crash involvement, including frequency and severity. It is based on information from State-reported crashes

A carrier's measurement for each BASIC depends on the following:

» The number of adverse safety events (violations related to that BASIC or crashes)

» The severity of violations or crashes

» When the adverse safety events occurred (more recent events are weighted more heavily)

» After a measurement is determined, the carrier is then placed in a peer group (e.g., other carriers with similar numbers of inspections). Percentiles from 0 to 100 are then determined by comparing the BASIC measurements of the carrier to the measurements of other carriers in the peer group. A percentile 100 indicates the worst performance

New Employee Orientation And Training Checklist

Name_____ Social Security No._____

Job Assignment_____ Supervisor_____

Employment Date_____

By Human Resources Department on first day of employment:

[ ] Management's safety and health philosophy

[ ] Management's, supervisors, and employee's safety and health responsibilities.

[ ] General safety and health rules.

[ ] Hazard Communication audiovisual presentation.

[ ] Location and availability of the program.

HR Representative Signature_____ Date_____

By Employee's Immediate Supervisor on first day in work area:

[ ] Introduction to operations where chemical and physical hazards are present – types of hazards encountered.

[ ] Required work practices.

[ ] Personal Protective Equipment.

[ ] Emergency Procedures

[ ] Detection of Chemical Hazards

[ ] Location and availability of program and manual

[ ] Labeling systems

Supervisor Signature_____ Date_____

By Employee's Immediate Supervisor after one week of employment:

[ ] Review Work practices and procedures with employee

[ ] Answer employee questions

[ ] Return completed checklist to Human Resources Department for filing in employee personnel folder.

Supervisor Signature_____ Date_____

Employee Signature_____ Date_____

Employee Training Acknowledgement

I have received a copy of the Barnhill Contracting Company Safety Manual, which describes in general my responsibilities and policies of the company. I will read this book carefully, and follow the rules and procedures.

If I have questions about the training, materials presented or Barnhill Contracting Company policy and procedures regarding safety, or about tasks that affect my safety and health or the safety and health of others, I understand it is my responsibility to seek clarification from my supervisor before attempting to perform the task.

Employee Signature _____

Print name _____

Date _____

Driver Acknowledgement Of Policies

Barnhill Contracting Company has provided me with a copy of the policies defining use of company-owned vehicles. A representative of Barnhill Contracting Company has reviewed these policies with me and I understand and agree to comply with them.

I have received a copy of an Accident Reporting Kit and have been trained on its use in the event of an accident. I agree to comply with its instructions and understand that it is my responsibility to inform my direct supervisor as soon as possible following any accident or incident. I further understand that it is my responsibility to notify proper law enforcement agencies as soon as possible and to prepare a written report describing the accident events.

I agree not to operate any company vehicle while under the influence of drugs or alcohol. I fully understand that, should I be found operating a company vehicle while under the influence of drugs or alcohol, it shall constitute grounds for immediate revocation of driving privileges.

I agree to abide by all federal, state and local laws and ordinances regarding the operation and storage of the company-assigned vehicle. I understand that it is my responsibility, as a holder of a driver's license, to remain informed of and to fully comply with current and future laws and ordinances governing the operation and storage of motor vehicles.

I understand that I must report to the company any suspension, revocation or cancellation of a driver's license at the beginning of the business day following the day that I received notice of the suspension, revocation or cancellation.

I agree to allow the company to request copies of my Motor Vehicle Report as often as the company see fit.

I understand that my use of any company vehicle may be revoked or restricted in accordance to the provisions outlined in company policies, which I have read and reviewed.

Should the revocation or suspension of these privileges affect the performance of my assigned job responsibilities, I understand that this will constitute grounds for suspension without pay or dismissal from my position.

Employee Signature_____ Date_____

BARNHILL
CONTRACTING
COMPANY
Barnhill Contracting Company
www.barnhillcontracting.com

Section Seven

Bid & Subcontract Forms

BARNHILL CONTRACTING COMPANY

2311 North Main Street
PO Box 1529
Tarboro, North Carolina 27886
252-823-1021 Fax: 252-824-8277
www.barnhillcontracting.com

BARNHILL CONTRACTING COMPANY

STANDARD SUBCONTRACT DOCUMENT

Contractor Job Number

«PROJECT_JOB_NUMBER»

Date

«SCOPE_OF_WORK_DATE_CREATED»

THIS AGREEMENT made on «SCOPE_OF_WORK_DATE_CREATED» by and between «SUBCONTRACTOR_NAME» «SUBCONTRACTOR_ADDRESS1», «SUBCONTRACTOR_ADDRESS2», «SUBCONTRACTOR_CITY», «SUBCONTRACTOR_STATE» «SUBCONTRACTOR_POSTAL_CODE» hereinafter called the Subcontractor and

Barnhill Contracting Company, P.O. Box 1529, Tarboro, NC 27886 hereinafter called the Contractor.

WORK:	«SCOPE_OF_WORK_DESCRIPTION»	
PROJECT:	«PROJECT_DESCRIPTION» «PROJECT_DESCRIPTION_2»	("Project")
OWNER:	«OWNER_NAME»	("Owner")
ARCHITECT-ENGINEER:	«DETAIL_DESCRIPTION»	("Architect")
PRIME CONTRACT:	«CONTRACTOR_NAME»	("Contract")
SUBCONTRACT PRICE:	$ «SCOPE_OF_WORK_CONTRACT_AMOUNT»	("Price")

Scope of Work Breakdown:

Item No.	Description Of Work	Cost Distribution	Cost Type	U/M	Unit Price	Quantity	Amount	Retained Percent

SUBCONTRACTOR AGREES TO PROVIDE A DETAILED SCHEDULE TO THE CONTRACTOR FOR USE IN PREPARING A C.P.M. ON OR BEFORE:
See Schedule “A”

SUBCONTRACTOR AGREES TO PROVIDE ALL SUBMITTALS TO THE CONTRACTOR ON OR BEFORE:
See Schedule “A”

MONTHLY BILLING DATE: 20th of Each Month ("Monthly Billing Date")

PAYMENT AND PERFORMANCE BOND: Required _____ Not Required _____

Initials: _____

_____

SAMPLE

*** SUBCONTRACTOR MUST EXECUTE AND RETURN THE SUBCONTRACT WITHIN TEN (10) CALENDAR DAYS OF THE AGREEMENT DATE LISTED ABOVE OR BARNHILL WILL HAVE THE OPTION TO DECLARE THE DOCUMENT VOID.**

SAMPLE

Initials: _____

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1. **SCOPE OF WORK.** Subcontractor shall perform and furnish all labor, supervision, services, materials, equipment, tools, scaffolds, transportation, storage and all other things necessary to prosecute and complete the work identified and described in **ATTACHMENT "A"** attached hereto (the "Work") being a portion of the Work required of Contractor under the Contract between Owner and Contractor. The Work shall be performed by Subcontractor in a good and workmanlike manner strictly in accordance with the Contract Documents, consisting of the Contract and the plans, specifications including, but not limited to, general, special and supplemental conditions, addenda and other documents identified in **ATTACHMENT "B"** attached hereto and all subsequently and duly issued modifications thereto.

Subcontractor shall give his personal supervision to the work or have a competent foreman or superintendent, satisfactory to the Contractor, on the Work at all times during progress, with full authority to act for the Subcontractor. The Contractor may remove any employee of the Subcontractor who is considered unsatisfactory. Subcontractor agrees to cooperate fully with the Contractor, the Contractor's project superintendent, and all other subcontractors that the Contractor may employ on the Project.

With respect to the Work, Subcontractor agrees to be bound to Contractor by the terms and conditions of the Contract Documents and this Subcontract and hereby assumes toward Contractor all of the duties, obligations and responsibilities that contractor, by the Contract, has assumed toward Owner. The contract agreement between Contractor and Owner is available for Subcontractor's review at the Contractor's office during normal working hours.

It is expected that Subcontractor has received Specifications and/or Drawings appropriate for his needs in purchasing material and performing the Work. If this is not the case, it is the duty of the Subcontractor to notify in writing and request information from the Contractor.

Subcontractor represents and warrants that it has, prior to entering into this Subcontract, carefully examined and fully understands all contract documents, physically inspected the premises, fully investigated the type and nature of work to be performed by it, and all of the conditions (both natural and artificial) and circumstances surrounding or in any way affecting such work, the difficulty of such work and the time within which it must be performed. Further, Subcontractor represents that it enters into this Subcontract solely on the basis of such examination, inspection and investigation, and upon its asserted knowledge and experience performing the work described herein, and not because of, nor in reliance upon, any representation or opinion rendered by either the Contractor or the Owner or any of their representatives, officers, employees or agents.

2 **PRICE.** Contractor shall pay to Subcontractor for the satisfactory performance and completion of its Work and all the duties, obligations and responsibilities of Subcontractor under this Subcontract, the sum set forth above as the Price, subject to additions and deductions herein provided. To the extent this Subcontractor's Work is to be performed on a unit price basis, the Price shall be computed in accordance with the unit prices set forth in **ATTACHMENT "C"**, based on actual quantities determined in accordance with the Contract Documents and this Subcontract. The Price and all unit prices shown in **ATTACHMENT "C"** shall be deemed to include all costs of Subcontractor's performance of the Work, including, but not limited to, the costs of labor, supervision, services, materials, equipment, tools, scaffolds, transportation, storage, insurance and taxes, and allowance for overhead and profit.

Within 10 days from date of subcontract, Subcontractor shall submit to Contractor a detailed schedule showing a cost breakdown (with proper share of associated overhead and profit) of the Price according to the various line items, or parts, of the Work. If Subcontractor fails to deliver its cost breakdown, Barnhill will have the right to make a cost breakdown, which Subcontractor shall be deemed to have accepted as its own. This breakdown is required for Owner's accounting records and for use only as a basis of checking Subcontractor's applications for payment or supporting Contractor's applications for payments under the Contract.

3. **TIME.** TIME IS OF THE ESSENCE. Therefore, Subcontractor shall: (a) submit to Contractor within 10 days a detailed, reasonable proposed schedule for Subcontractor's part of the Work for Contractor's use in preparing an overall progress schedule for the entire work and its several parts under the Contract, as provided in ¶ 4 hereof and **ATTACHMENT "D"** if subcontractor fails to submit such a schedule, or if Barnhill finds the submittal unreasonable, Barnhill will meet with the Subcontractor to reasonably schedule its work within the overall schedule; (b) begin the Work upon Contractor's order to do so; (c) coordinate and perform the Work; and its several parts, diligently and promptly and in such order and sequence as Contractor may direct and as will assure the efficient and timely prosecution, and will not delay completion, of the entire work and its several parts under the Contract; and (d) furnish at all times sufficient, qualified and competent forces and supervision, and adequate, conforming and usable materials, equipment, plant, tools and everything necessary to achieve progress according to Contractor's progress schedule

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including any specific schedule for Subcontractor's Work attached hereto as **ATTACHMENT "D"** and any revisions thereof by Contractor. If Subcontractor fails to perform as outlined in this paragraph, Barnhill shall have the right to supplement the Subcontractor's work force and/or equipment, as required to maintain the schedule and backcharge the Subcontractor therefore.

Without limiting the generality of the foregoing, Subcontractor shall: (a) submit, with its proposed schedule, information showing the time required to prepare and approve shop drawings, to fabricate and deliver materials and equipment, and to install the Work; (b) order (for manufacture and/or purchase and delivery) all materials required for performance of the Work within 10 days of the date of this subcontract in order to avoid delays caused by unavailability; (c) furnish Contractor within 10 days of the date of this subcontract a list of major materials and equipment required for the Work, showing the name, address and telephone number of the supplier and the date on which such materials purchase orders and subcontracts (with price information deleted); (e) cause a qualified home office supervisory representative (while Subcontractor has forces at the Project site and for two weeks prior thereto) to attend weekly (or as scheduled) progress meetings; and (f) notify Contractor immediately by telephone and confirm in writing within 72 hours, if Subcontractor finds that any items cannot be delivered as required to maintain Contractor's progress schedule. If Subcontractor fails to have a qualified representative attend any meeting at which attendance is required, Subcontractor shall be deemed to have accepted all decisions made at such meeting and shall perform in accordance with all such decisions.

4. **Performance Schedule.** TIME IS OF THE ESSENCE. This is repeated herein for special emphasis. Contractor will issue a Performance Schedule for the Project and a copy will be provided to each Subcontractor. All work shall be performed in accordance with the Performance Schedule. The Performance Schedule will be updated or revised from time to time in order to properly coordinate and sequence the work. Contractor will consult with Subcontractor on updates or revisions to the Performance Schedule; however, it is specifically agreed that Contractor shall manage the schedule and may deviate from prior schedules in order to resequence and compress durations to react to changing conditions.

Subcontractor shall commence work immediately in accordance with notification by Contractor and the Performance Schedule and shall maintain progress in strict compliance with the Performance Schedule. Subcontractor shall supply sufficient manpower, equipment and competent supervision to accomplish the work in all areas, at whatever rate, is required to maintain its schedule and the Project Performance Schedule. Work shall be done in such a manner as not to delay, hinder or interfere with any other items of work or the final completion of the project, but in no event shall progress be less than as set forth in Subcontractor's Performance Schedule as set forth in **ATTACHMENT "D".**

Subcontractor will have two weeks from the issuance of the Master Performance Schedule to review and return written comments to Contractor concerning the sequence and duration of Subcontractor's activities. Also, within two weeks, Subcontractor shall send to Contractor a complete list of shop drawings and submittal data to be submitted with specific information regarding time to prepare shop drawings, fabricate and deliver materials after the approval of shop drawings. Subcontractor shall also submit a complete list of its material orders for all major and critical items showing the items, supplier and promised delivery date for each item and a breakdown of the Subcontractor's manpower estimate for each area, by activity, for scheduling purposes.

Subcontractor will immediately submit all shop drawings, samples, catalog data, certificates and sepia forms and other submittal data as required by the Contract Documents and Paragraph 21 of this Subcontract. Subcontractor must expedite and follow up on all submittals and resubmittals to ensure approval and delivery as early as possible so there will be no delay to this Project. Field use drawings will be issued by Subcontractor promptly and in sufficient quality immediately after the return of approved submittals.

If anything occurs which may delay Subcontractor's work, Subcontractor shall notify Contractor, in writing, within twenty-four (24) hours after the occurrence of the event which may cause delay. Subcontractor's failure to so notify Barnhill will make Subcontractor liable, and Barnhill shall backcharge, for any liability Barnhill may incur as a result of Subcontractor's failure to report the delay event. Subcontractor agrees that it shall be liable for actual damages resulting from its delays.

5. **Progress Payments.** On or before each Monthly Billing Date, Subcontractor shall deliver to Contractor, on the form shown on **ATTACHMENT "E"** and supported by such data as Contractor may require, an Application for Payment showing the value of the Work installed ("Completed Work"), plus the value of the material and equipment for incorporation in the Work suitably (to the satisfaction of Contractor and Architect) stored at the Project site or other

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approved location ("Stored Materials") **ATTACHMENT "F"**, if, and only if, the Contract Documents provide for payments to Contractor on that basis, as of such date. With the Applications for payment, Subcontractor shall also submit as an integral part of the Application (a) a Waiver and Release Upon Progress Payment, **ATTACHMENT "G"**, (b) materials and equipment status report updated with current information, **ATTACHMENT "H"**, (c) sales tax report for the County in which the project is located which will be supplied as **ATTACHMENT "I"**; (d) estimated percentage completion for each area, by activity, to match Subcontractor's price schedules, and (e) a lower tier subcontractor and supplier conditional release of claims, **ATTACHMENT "N"**, from all companies with a total project cost of $10,000.00 or more.

Within 7 days after receiving a Progress Payment from Owner under the Contract for work done by Subcontractor, Contractor shall make a progress payment to Subcontractor equal to the value of the Completed Work and Stored Work as of the corresponding Monthly Billing Date, to the extent approved by Contractor and allowed and paid by Owner on account of the Work, after deducting: (a) all previous payments; (b) current retainage (meaning a reserve equal to the Retained Percentage times the allowed value of Completed Work and Stored Work, plus any extraordinary reserve provided herein); and (c) all setoffs, charges or backcharges for services, materials, equipment and other items furnished or otherwise chargeable by Contractor to Subcontractor.

Nothing contained in this Subcontract to the contrary, the Subcontractor agrees that the Contractor shall be under no obligation to pay the Subcontractor for labor or materials required under this Subcontract, and such payments shall not actually become due, until the Contractor has been paid therefore by the Owner. The provisions of this Subcontract stating the time for payment of progress and final payments and the amount thereof are subject to the condition precedent that the Contractor shall receive from the Owner progress or final payments on account of work done by the Subcontractor in at least the amounts for which the Subcontractor has made application for payment. Otherwise, the time when such payments shall actually become due to the Subcontractor shall be postponed until the Contractor has received same from the Owner. The Subcontractor contemplates, understands, and agrees that payments to him are expressly contingent upon the Contractor receiving payment from the Owner for the Subcontractor's work, and the Subcontractor expressly agrees to accept the risk of nonpayment by the Owner to the Contractor. The Subcontractor agrees that, to the fullest extent permitted by law, payment by the Owner to the Contractor for work performed by the Subcontractor shall be a condition precedent to any payment obligation of the Contractor to the Subcontractor. Subcontractor further agrees that the liability of the surety on Contractor's payment bond, if any, for payments to the Subcontractor, is subject to the same conditions precedent as are applicable to the Contractor's liability to the Subcontractor.

Contractor reserves the right to advance the date of any payment (including final payment) under this Subcontract, if, in its sole judgment, it becomes desirable to do so.

6. **Final Payment.** Final Payment consisting of the unpaid balance of the Price minus all setoffs, charges or backcharges for services, materials, equipment and other items furnished or otherwise chargeable by Contractor to Subcontractor, shall be made within 45 days after the last of the following to occur: (a) completion of the Work by Subcontractor; (b) acceptance thereof by the Architect and Owner; c) final payment by Owner to Contractor under the Contract on account of the Work; (d) furnishing of evidence satisfactory that there are no claims, obligations, or liens outstanding or unsatisfied for labor, services, materials, equipment, taxes or other items performed, furnished or incurred in connection with the Work; (e) delivery of all guarantees, warranties, bonds, instructions manuals, performance charts, diagrams, as-built drawings and similar items required of Subcontractor or its suppliers or subcontractors; and (f) delivery of an Unconditional Final Waiver and Release, on the form **ATTACHMENT "J",** executed by Subcontractor running to and in favor of Contractor and Owner. Subcontractor shall also submit lower tier subcontractor and supplier unconditional final release of claims, **ATTACHMENT "O"**, prepared by all companies with a total project cost of $10,000.00 or more.

Acceptance of final payment by Subcontractor shall constitute a waiver of claims by Subcontractor and any of its subcontractors and material suppliers except those previously made in writing and identified by the payee as unsettled at the time of application for final payment.

7. **Payment Conditions.** Subcontractor will receive the payments made by Contractor and will hold the right to receive such payments as a trust fund to be applied first to the payment of laborers, suppliers, subcontractors and others responsible for the Work justifying such payments and all taxes and insurance applicable thereto; and Subcontractor will so apply the payments from Contractor.

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Subcontractor shall, as often as requested by Contractor, furnish such information, evidence and substantiation as Contractor may require with respect to the extent and value of current progress and the nature and extent of all obligations incurred by Subcontractor in connection with the Work and all payments made by Subcontractor on such obligations.

If Contractor is requested by Subcontractor or its subcontractors or vendors, and Subcontractor agrees, to a joint check arrangement to pay Subcontractor's subcontractors and/or vendors, and if Contractor agrees to such arrangement, nothing herein obligating Contractor to so agree, Contractor shall be entitled, at is sole option, to deduct five per cent (5%) of the amount of each such joint check from any other sums due Subcontractor. Such deduction to be made at the time the joint check is negotiated. Further, Subcontractor agrees that it will not deposit, or otherwise negotiate, any joint checks without first obtaining the endorsement of all joint payees.

Contractor may withhold Progress Payments and/or Final Payment in whole or in part because of:

a. defective work not remedied;
b. third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to Contractor is provided by Subcontractor;
c. failure of Subcontractor to make payments properly to its subcontractors or for labor, materials, or equipment;
d. damage to Owner, another contractor or subcontractor;
e. reasonable evidence that the Work will not be completed within the Contract time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
f. failure to carry out the Work in accordance with the Contract Documents, or this Subcontract.

No payment hereunder shall be conclusive evidence of the performance or progress of the work and no payment shall be construed to be acceptance of defective, faulty or improper work or materials.

8. **Extension of Time.** Should Subcontractor, without fault or neglect on its own part, be delayed in the commencement, prosecution, or completion of the Work by the fault or neglect of Contractor, by an act of God or any other cause beyond the control of Contractor and Subcontractor that entitles Contractor to an extension of time under the Contract Documents, determined in accordance with the Contract Documents. Subcontractor shall be entitled only to a reasonable extension of time. In no event shall Subcontractor be entitled to compensation or damages for any delay in the commencement, prosecution, or completion of the Work, except to the extent that Contractor shall receive such compensation or damages from Owner or other third party.

Notwithstanding anything to the contrary in the Contract Documents, or this Subcontract, Subcontractor shall not be entitled to an extension of time unless Subcontractor shall have delivered written notice of delay to Contractor within 24 hours after commencement of the cause of the claimed delay.

9. **Change Orders.** Owner reserved the right under the Contract Documents to require Contractor to make changes in the Project Work, including additions thereto and deletions therefrom. Without notice to any surety and without invalidating this Subcontract, Contractor may from time to time, by written order ("Change Order") to Subcontractor, make changes in the Work to the same extent and in the same manner as may be required of Contractor by Owner under the Contract Documents and Subcontractor shall thereupon perform the changed Work in accordance with the terms of the Contract Documents and this Subcontract.

Upon request of Contractor, and in time and manner sufficient to permit Contractor to comply with its obligations under the Contract Documents, Subcontractor shall submit a written proposal for any applicable Price or Time adjustment attributable to the changed Work, amply detailed, supported and conforming to the requirements of the Contract Documents.

The Price shall be adjusted by the net amount of any direct savings and direct costs (plus an allowance for overhead and profit) attributable to the Change Order, and the Time for performance of the Work shall be adjusted to the extent necessary, subject, however, in each instance to the following limitations: (a) the Price and Time adjustments hereunder shall be limited to the amount and extent of adjustments actually allowed Contractor under the Contract Documents (less, in the case of Price, any markup or other similar amount allowed by Owner for Contractor's account); (b) where the Work affected by Change Order is the subject of unit prices, under **ATTACHMENT "C",** the Price adjustment shall be limited to the amounts obtained by applying such unit prices; and c) the amount allowable for

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overhead and profit shall be limited to an allowance obtained by applying the Profit Percentage to the net amount of the Subcontractor's direct savings and direct costs.

As used in this Subcontract, Subcontractor's direct savings and direct costs shall mean and be limited to the actual amount of the following: materials, including sales tax and cost of delivery; cost of labor, including social security, old age and unemployment insurance, and fringe benefits required by agreement or custom; workmen's compensation insurance; bond premiums; and actual rent of, or reasonable rental value of Subcontractor owned, equipment and machinery.

If the parties are able to agree upon the amount of the Price adjustment and the extent of any Time adjustment, such adjustments shall be written in the Change Order which shall be signed on behalf of Subcontractor. If the parties are unable to agree upon such adjustments, Contractor may elect to issue the Change Order to Subcontractor, and any adjustments to Price or Time shall be determined in accordance herewith; and Subcontractor shall, nonetheless, proceed immediately with the Work required by the Change Order.

10. **Extra Work.** In addition to Change Orders issued as a result of changes ordered by Owner or Architect, Contractor, from time to time, without notice to any surety and without invalidating this Subcontract, may require by written Change Order that Subcontractor perform extra work reasonably related to the original Work hereunder. Contractor or Subcontractor may also perform extra Work (meaning work or services not required by the Subcontract or by Change Order) pursuant to written agreements made from time to time for the benefit of the other party, or persons, or entities responsible to such other party. Such extra Work shall be invoiced weekly, in reasonable detail and amply supported, on the basis of the performing party's actual direct costs, and without overhead or profit or allowance therefore. Payment of such invoices shall be made at the time of the next ensuing progress payment or final payment hereunder.

In no event shall Subcontractor proceed with changed or extra Work without a written Change Order issued under Paragraph 9 or this Paragraph 10 and approved by Contractor's Project Manager or Superintendent; and Contractor shall not be liable for any additional costs incurred or delays encountered in the performance of such Work without such a written Change Order.

11. **Bonds.** If so indicated on Page 1 hereof, Subcontractor shall furnish, within 10 days of the date of this Subcontract, at its expense, a performance bond and a payment bond, each in an amount equal to the Price, on Contractor's standard form and with sureties satisfactory to Contractor.

12. **INSURANCE REQUIREMENTS – (Including Attachment K)**

Before commencing the Work and until the completion and final acceptance thereof by Owner, Subcontractor shall obtain and maintain, at its sole expense, at least the insurance coverages specified in Attachment K hereto which is incorporated by reference and made a part of this contract. Subcontractor shall furnish copies of such Certificates of Insurance to Contractor prior to commencement of the Work, and when requested by Contractor. The insurance required to be furnished by Subcontractor shall be obtained from a responsible company or from responsible companies.

Additional Insured:

All insurance policies obtained by Subcontractor pursuant to this Agreement, except workers' compensation, must name Contractor and any other Contractor designated party as an additional insured, and the Contractor will be expressly identified as such on each applicable Certificate of Insurance. Contractor will also be identified on each applicable Certificate of Insurance as a Certificate Holder. The additional insured endorsements must comply with Attachment K-Insurance which is incorporated by reference into this contract. Such polices shall provide primary coverage for all losses and damages covered thereby, and shall include contractual liability insurance covering the Subcontractor's obligations. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage by the Subcontractor's insurer(s), that such insurer(s) shall have no right of recovery against any additional insured thereunder.

ALL ADDITIONAL INSURED OBLIGATIONS SET FORTH ABOVE SHALL BE FOR THE FULL POLICY LIMITS AND ENFORCED TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW FOR THE BENEFIT OF THE CONTRACTOR, REGARDLESS OF THE CAUSES ALLEGED OR THE CAUSES OF THE CLAIMS.

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Waiver of Subrogation:

Subcontractor hereby waives all rights against Contractor, Owner, and any other Contractor designated party and their shareholders, officers, directors, employees, agents, consultants for recovery of any damages to the extent that these damages are covered by commercial general liability insurance, commercial umbrella liability insurance, business auto liability insurance, or workers' compensation and employer's liability insurance maintained per the requirements of this Agreement. To the extent that Subcontractor maintains insurance coverage for loss or damage to property, Subcontractor hereby waives subrogation of such a claim against Contractor and it agents, employees, and servants.

Workers Compensation:

Subcontractor shall maintain workers' compensation and employer's liability insurance in accordance with the laws of the state or states in which the work is performed, but with employer's liability limits of at least $500,000.00 per accident for bodily injury by accident and at least $500,000.00 for each employee for injury by disease.

Subcontractor's workers' compensation and employer's liability insurance shall apply to all individuals who qualify for such coverage pursuant to the language of such policies for insurance and the laws of the state or states in which the work is performed. Subcontractor further covenants and agrees that its workers' compensation and employer's liability insurance policies shall afford full and exclusive coverage to Subcontractor's officers, directors, shareholders, agents, and consultants. Subcontractor further covenants and agrees that Contractor's worker's compensation and employer's liability insurance policies shall not afford any coverage to Subcontractor's employees, officers, directors, shareholders, agents, or consultants.

Certificates of Insurance:

Current Certificates of Insurance as required by this contract, including Attachment K, are to be furnished to the Contractor on or before each renewal date. No less than 30 days written notice shall be provided to Contractor of the cancellation, material modification, or the fact that any applicable aggregate policy limits are reasonably likely to be exceeded.

13. **Indemnity.** To the full extent permitted by law, Subcontractor agrees to defend, indemnify and save harmless Contractor and Owner, and their agents, servants and employees, from and against any claim, cost, expense, or liability (including attorneys' fees), attributable to bodily injury, disease, or death, or to damage to, or destruction of, property (including a loss of use thereof), caused by, arising out of, resulting from or occurring in connection with the performance of the Work by Subcontractor, its subcontractors, or their agents, servants, or employees, whether or not caused in part by the active or passive negligence or other fault of a party indemnified hereunder, provided, however, Subcontractor's duty hereunder shall not arise if such injury, sickness, disease, death, damage, or destruction is caused by the sole negligence of a party indemnified hereunder. Subcontractor's obligation hereunder shall not be limited by the provisions of any workmen's compensation or similar act.

Should Owner or any other person assert a claim or institute a suit, action, or proceeding against Contractor involving the manner or sufficiency of the performance of the Work, Subcontractor, upon request of Contractor, shall promptly assume the defense of such claim, suit, action or proceeding, at Subcontractor's expense, and Subcontractor shall indemnify and save harmless Contractor and its agents, servants and employees, from and against any liability, loss, damage, or expense arising out of or related to such claim, suit, action, or proceeding.

14. **Assignment.** Subcontractor shall not assign this Subcontract or any monies due or to become due hereunder, or subcontract any substantial part of the Work, without the prior written consent of Contractor. Subcontractor shall not be relieved of its duties and obligations hereunder by any assignment or subcontract and shall be and remain as fully responsible and liable for the acts and omission of its assignees and subcontractors, and all persons directly or indirectly employed by them, as Subcontractor is for its own acts and omissions and those of its agents, servants and employees.

15. **Compliance.** Subcontractor shall, at its own expense, obtain all necessary licenses and permits pertaining to the Work and comply with all statutes, ordinances, rules, regulations and orders of any governmental or quasi-governmental authority having jurisdiction over the Work or the performance thereof, including, but not limited to, those relating to safety, wages, discrimination and equal employment opportunity. Subcontractor shall promptly correct any violations of such statutes, ordinances, rules, regulations and orders committed by Subcontractor, its agents, servants

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and employees; and Subcontractor shall receive and respond to, and shall defend, indemnity and save harmless Contractor and Owner and their agents, servants and employees from and against any loss, liability or expense arising from, any such violations and any citations, assessments, fines or penalties resulting therefrom.

16. **Safety.** Subcontractor agrees that the prevention of accidents to workmen engaged upon or in the vicinity of the work is its responsibility, even if Contractor establishes a safety program for the entire Project. Subcontractor shall establish and implement safety measures, policies and standards conforming to those required or recommended by governmental and quasi-governmental authorities having jurisdiction and by Contractor and Owner, including, but not limited to, any requirements imposed by the Contract Documents. Subcontractor shall comply with the reasonable requirements of insurance companies having an interest in the Project. Subcontractor shall stop any part of the Work which Contractor deems unsafe and immediately take corrective measures satisfactory to Contractor before commencing the Work. Contractor's failure to stop Subcontractor's unsafe practices shall not relieve Subcontractor of its responsibilities therefore.

Subcontractor is responsible for the safe use, storage, and disposal, in accordance with all laws, ordinances, codes, rules and regulations, of any chemicals or other materials that Subcontractor uses in the performance of Subcontractor's Work. Subcontractor shall provide Contractor with a list of all chemicals or materials used in performance of the Work and a copy of the Material Safety Data Sheet for each chemical. All chemicals Subcontractor brings on the Project site, shall bear a label stating the identity of the chemical, any hazards associated with it, and the Subcontractor's name, the name of any of the Subcontractors' subcontractors.

This Project is a hard-hat job. All personnel are required to wear head protection. Failure to comply will be cause for termination.

A Job Safety Meeting will be held at least monthly. Subcontractor must have a qualified representative present at each meeting capable of authorizing, making decisions, and responding to safety needs. This representative shall be responsible to communicate to all Subcontractor's employees the decision, concerns, action required, and possible safety hazards addressed during this meeting.

To the fullest extent permitted by law, the Subcontractor shall indemnify and hold harmless the Owner, the Contractor, and each of their agents and employees from and against any and all OSHA violation penalties, as well as all expenses and Attorneys' fees which may arise out of or result from the imposition or proposed imposition of such penalties, arising out of or resulting from performance of the Subcontractor's work under this subcontract to the extent caused in whole or in part by negligent acts or omissions of the Subcontractor, the Subcontractor's subcontractors, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not the penalty or proposed penalty is caused in part by a party indemnified hereunder. This obligation shall not affect or limit the other rights of indemnification described in this Agreement.

Repeated safety violations after warnings by Contractor shall be grounds for termination of Subcontractor's services and/or of this Subcontract.

17. **Cleaning up.** Subcontractor shall, at its own expense: (a) keep the premises at all times free from waste materials, packaging and other debris accumulated in connection with the Work, by collecting and removing such debris from the job site on a daily basis;(b) clean-up includes all removal of debris, overspray, and rubbish from adjacent surfaces; c) at the completion of the Work in each area, sweep and otherwise make the Work and its immediate vicinity "broom-clean"; (d) at final completion of the Work remove all of its tools, equipment, scaffolds, temporary structures and surplus materials as directed by Contractor; and (e) for final inspection clean and prepare the Work for inspection by Owner.

18. **Temporary Facilities.** Temporary facilities and services shall be provided in accordance with **ATTACHMENT "L"** hereto.

19. **Quality.** Subcontractor shall provide quality materials and workmanship conforming to Contract requirements and good industry practices. Subcontractor shall provide proper facilities and opportunity at all times for the inspection of the Work by Contractor, Architect and Owner and their representatives, and shall, within 24 hours after receiving written notice from Contractor or Architect, proceed to demolish and remove promptly all portions of the Work which the Contractor or Architect shall have condemned as unsound, improper, or in any way failing to conform to the Contract Documents or this Subcontract and shall replace the same with proper and satisfactory Work and make good all work damaged or destroyed by such demolition and/or removal. Contractor's failure to discover and notify

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Subcontractor of defective or nonconforming Work, at the time the Work or any portion thereof is performed or completed, shall not relieve Subcontractor of responsibility for replacement of the defective or nonconforming Work and all damages resulting therefrom. If the Owner elects to accept defective or nonconforming Work, Contractor may require an appropriate and equitable adjustment in the Price to the extent required of Contractor.

Subcontractor will not be allowed to make substitutions except as authorized in writing. It is understood that the procedures for substitution under the Contract Documents shall apply. It is understood that the procedures for substitutions under the Contract Documents shall apply.

All shop drawings, catalog data, certificates, and other submittal data as required by the Contract shall be specially annotated, highlighted or otherwise clearly show all exceptions to, or variances from, the Specifications or Contract Drawings. If this is not done, Subcontractor is presumed to have judged the variances to be equal and acceptable to the Contractor under the Contract Documents.

20. **Warranties.** Subcontractor warrants and guarantees the Work to the full extent provided for in the Contract Documents. Without limiting the foregoing or any other liability or obligation with respect to the Work, Subcontractor shall, at its expense and by reason of its express warranty, make good any faulty, defective, or improper parts of the Work discovered within one year from the date of final acceptance of the Project by the Architect and Owner or within any such longer period as may be provided in the Contract Documents or this Subcontract.

21. **Submittals.** Subcontractor shall immediately prepare or obtain and promptly submit to Contractor shop and erection drawings, samples, product data, catalogue cuts, laboratory and inspection reports and engineering calculations, all as may be required by the Contract Documents, or as may be necessary or appropriate to describe the details of the Work. Approval of drawings or other submittals by Contractor or Architect shall not relieve Subcontractor of its obligation to perform the Work in strict accordance with the Contract Documents or its responsibility for the proper matching of the Work to contiguous work.

22. **Performance.** The Work shall be performed and furnished under the direction and to the satisfaction of the Architect and Contractor, but Subcontractor shall not thereby be relieved of its obligation to supervise the Work, using its best skill and attention, or its obligation to perform the Work as provided for herein. Subcontractor shall be bound by the interpretation and decisions of the Architect and Owner to the same extent as Contractor may be bound thereby under the Contract Documents.

If part of Subcontractor's Work depends for proper execution or results upon construction or operations by the Owner, a separate contractor, or another subcontractor, the Subcontractor shall, prior to proceeding with that portion of the Work, promptly report to Contractor apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of Subcontractor so to report shall constitute an acknowledgment that the Owner's, separate contractors', or another subcontractor's completed or partially completed construction is fit and proper to receive Work, except as to defects not then reasonably discoverable.

Special coordination will be required on this Project due to the sequencing requirements and complexity. All work shall be executed as directed by Contractor with as little inconvenience, noise, dust and dirt as possible, and be in compliance with Local and Federal Safety and Environmental Regulations.

A weekly Progress and Coordination meeting will be held at the jobsite. Subcontractor must have a qualified representative, capable of authorizing and making decisions regarding the Subcontractor's work, attend each weekly meeting while the Superintendent has work in progress and for at least two (2) meetings prior to starting work.

Subcontractor shall provide a daily progress report, **ATTACHMENT "M"**, to Contractor's representative.

Subcontractor is responsible for the protection of completed or partially completed work of other trades during his own work. Should damage occur as a result of Subcontractor's activities, Subcontractor shall repair and/or replace at its own cost, all damaged work in a timely fashion so as not to delay the progress of a job.

The accuracy of all shop drawing dimensions shall be the responsibility of Subcontractor. Contractor shall make only a cursory review of general design during the processing of shop drawings. It will be the full responsibility of Subcontractor to insure that his completed, installed product is in conformance with the Contract Documents.

Initials: _____

_____

SAMPLE

23. **Liens.** Subcontractor shall defend, indemnity and save harmless Contractor, Contractor's sureties and Owner from any lien or claim of lien filed or maintained by any laborer, materialman, subcontractor, or other person directly or indirectly acting for, through, or under Subcontractor, against the Project or any part thereof or any interest therein or against any monies due or to become due from Owner to Contractor or from Contractor to Subcontractor. Without limiting the foregoing, Subcontractor shall cause any such lien or claim of lien to be satisfied, removed or discharged by bond, payment, or otherwise within 10 days from the date of filing or receipt.

24. **Patents.** Subcontract shall defend, indemnify and save harmless Contractor and Owner, from and against any claim, cost, expense, or liability (including attorneys' fees) arising out of or resulting from infringement or alleged infringement of any patent rights attributable to the Work, except to the extent that Owner may have assumed responsibility therefore under the Contract Documents.

25. **Labor.** Subcontractor agrees that where its work is stopped, delayed or interfered with by strikes, slowdowns or similar interruptions or disturbances (including cases where the Subcontractor's employees are engaged in a work stoppage solely as a result of a labor dispute involving Contractor or others and not in any manner involving Subcontractor), Contractor shall have the rights and remedies provided for in Paragraph 27. Subcontractor shall maintain and exercise control over all employees engaged in the performance of the Work, and Subcontractor shall, to the extent permitted by law, remove or cause to be removed from the Project any employee whose presence is detrimental to the orderly prosecution of the Work.

26. **Damage.** Contractor shall not be liable or responsible for loss or damage to the equipment, tools, facilities, or other personal property owned, rented, or used by Subcontractor, or anyone employed by Subcontractor, in the performance of the Work. Subcontractor shall maintain such insurance and take such protective action as it deems desirable with respect to such property. Except to the extent of any proceeds received by Contractor for the benefit of Subcontractor under a policy of builders' risk or fire insurance, Contractor shall not be liable or responsible for any loss or damage to the Work, and Subcontractor shall be responsible for the correction or restoration of any such loss or damage to the Work, or to the work of Contractor, another contractor, any other subcontractor, resulting from the operations of Subcontractor, or its subcontractors, agents, servants, or employees. Subcontractor shall take reasonable precautions to protect the Work from loss or damage prior to acceptance by Owner.

27. **Default.** Should Subcontractor at any time: (a) fail to supply the labor, materials, equipment, supervision and other things required of it in sufficient quantities and of sufficient quality to perform the Work with the skill, conformity, promptness, and diligence required by the Contract Documents or this Subcontract; (b) cause stoppage, delay of, or interference with, the Project work; c) become insolvent, or (d) fail in the performance or observance of any of the covenants, conditions, or terms of the Contract Documents, as applicable, or this Subcontract, then, in any such event, each of which shall constitute a default hereunder by Subcontractor, Contractor, after giving notice of default and 48 hours within which to cure, shall have the right to exercise any one or more of the following remedies:

(i) require that Subcontractor utilize, at its own expense, overtime labor (including Saturday, Sunday and holiday work) and additional shifts as necessary to overcome the consequences of any delay attributable to Subcontractor's default.

(ii) remedy the default by whatever means Contractor may deem necessary or appropriate, including, but not limited to, correcting, furnishing, performing, or otherwise completing the Work, or any part thereof, by itself or through others (utilizing where appropriate any materials and equipment previously purchased for that purpose by Subcontractor) and deducting the cost thereof (plus an allowance for administration burden equal to 15% of such costs) from monies due, or to become due, to Subcontractor whether on this or any other Project.

(iii) after giving Subcontractor an additional 48 hours notice (at any time following the expiration of the initial 48 hours curative period) terminate either Subcontractor's services under, or this Subcontract, without thereby waiving or releasing any rights or remedies against Subcontractor or its sureties, and by itself or through others take possession of the Work, and all materials, equipment, plant, tools, scaffolds and appliances of Subcontractor relating to work, for the purposes of completing the Work and securing to Contractor the payment of its costs (plus an allowance for administrative burden equal to 15% of such costs) and other damages under the Subcontract and for the breach thereof, it being intended that Contractor shall, for the stated purposes, be the assignee of and have a security interest in the property described above to the extent located on or off the Project site (and Contractor may at any time file this Subcontract as a financing statement under applicable law); and

Initials: _____

_____

(iv) recover from Subcontractor all losses, damages, penalties and fines, whether actual or liquidated, direct or consequential, and all reasonable attorneys' fees suffered or incurred by Contractor by reason of, or as a result of, Subcontractor's default.

Should any termination for default under Paragraph 27 (iii) be determined to be invalid, improper or wrongful, such termination shall be deemed to have been a termination for convenience as provided in Paragraph 28 below.

After completion of the Work by the exercise of any one or more of the above remedies and acceptance of the Work by Architect and payment therefore by Owner, Contractor shall promptly pay Subcontractor any balance of the Price. If the cost of completion of the Work, plus the allowance for administrative burden, together with any other damages or losses sustained or incurred by Contractor, shall exceed the undisbursed balance of the Price, Subcontractor and its surety or sureties shall pay the difference within fifteen (15) days of documented demand from Contractor.

The foregoing remedies shall be considered separate and cumulative and shall be in addition to every other remedy given hereunder or under the Contract Documents, or now or hereafter existing at law or in equity.

Except as limited by this Subcontract, Subcontractor shall have the rights and remedies available at law or in equity for a breach of this Subcontract by Contractor. Any default by Contractor shall be deemed waived unless Subcontractor shall have given Contractor written notice thereof within 7 days after the occurrence of such default. Subcontractor shall not be entitled to stop the Work or terminate this Subcontract on account of Contractor's failure to pay an amount claimed due hereunder (including changed or extra Work) so long as Subcontractor shall not have adequately substantiated the amount due or so long as a good faith dispute exists as to the amount due. Subcontractor shall not be entitled to stop the Work on account of a default by Contractor unless such default shall have continued for more than 7 days after Contractor's receipt of Subcontractor's written notice of such default.

Subcontractor shall not be entitled to terminate this Subcontract except for a substantial and material breach by Contractor which shall have continued, uncured, for at least an additional 30 days after (1) Subcontractor shall have stopped work in accordance with the requirements hereof and (2) Contractor shall have received written notice of Subcontractor's intention to terminate this Subcontract.

28. **Disputes.** In the event of any dispute between Subcontractor and Contractor arising under or relating to this Subcontract, or the breach thereof, which involves the correlative rights and duties of Owner, the dispute shall be decided in accordance with the Contract Documents and Subcontractor, and its sureties, shall be bound to Contractor to the same extent that Contractor is bound to Owner by the terms of the Contract Documents and by any decisions or determination made under the Contract Documents by any authorized person, board, court or other tribunal. Subcontractor shall be afforded a reasonable opportunity to present information and testimony involving its rights and shall have the duty to cooperate with Contractor.

It is specifically understood and agreed between the parties that One Hundred Dollars ($100.00) of the Subcontract Price is being paid by Contractor to Subcontractor as consideration for the discretionary arbitration provisions hereinafter agreed to by the parties. If a controversy or claim should arise between Subcontractor and Contractor under or relating to this Subcontract, or the breach thereof, which does not involve the correlative rights and duties of Owner and is not, therefore, controlled by the foregoing provision, then Contractor, in its sole discretion, may elect to submit such dispute to arbitration, in which event the dispute(s), shall be determined by arbitration, pursuant to the Uniform Arbitration Act of the State of North Carolina, before the American Arbitration Association and in accordance with the AAA's Construction Industry Arbitration Rules then in effect. The locale for all hearings shall be Tarboro, North Carolina. If the amount in dispute, including counterclaims, is less than $50,000, one arbitrator, who shall be an attorney who is experienced in arbitration and construction law, shall be appointed pursuant to said Rules. If the amount in dispute is $50,000 or more, three arbitrators, at least one of whom shall be an attorney, who is experienced in arbitration and construction law, shall be appointed, in the event the Contractor elects to submit the dispute to arbitration. It is agreed that the following claims shall not be arbitrable: any claim requesting punitive damages; any claim arising from the Architect's decision relating to artistic effect and any claim based upon an alleged deceptive trade practice - consumer protection act.

The parties consent to the personal jurisdiction of the General Courts of Justice of the State of North Carolina, County of Edgecombe and of the United States District Court for the Eastern District of North Carolina, and further consent that any process or notice of motion or other application to the Court or a Judge thereof may be served

Initials: _____

_____

SAMPLE

outside the State of North Carolina by registered or certified mail or by personal service, provided a reasonable time for appearance is allowed.

During arbitration or court proceedings, the Subcontractor shall proceed diligently with the performance of the Work. Likewise, Contractor may proceed, in good faith, to remedy an alleged default by Subcontractor.

29. **Early Termination.** If Owner terminates the Contract or stops the Work for a reason other than default of Contractor, Contractor may terminate this Subcontract or stop the Work for the same reason, and Subcontractor's rights and remedies (including the basis for compensation) shall be limited to the corresponding rights and remedies available to Contractor under the Contract Documents, in no event shall Subcontractor be entitled to consequential damages or loss of profits on portions of the Work not yet performed.

30. **Notices.** All written notices provided for in this Subcontract or in the Contract Documents shall be deemed given if delivered personally to a responsible representative of the party or if sent by telegram (with written confirmation copy following) or by regular mail to the party at its address specified herein. Either party may from time to time, by written notice to the other, as herein provided, designate a different address to which to send notices.

31. **SET OFF.** If Subcontractor has performed work, is currently performing work, or hereafter begins performing any work for Contractor other than the work under this Agreement, Contractor is hereby granted the right of setoff against amounts due under this Agreement or any other agreement with Subcontractor to compensate Contractor for damages or losses that Contractor does or is likely to incur as result of Subcontractor's negligence or failure to perform its work in accordance with the applicable standards and contract requirements for said agreement. Specifically, to the extent that the price for any agreement (including but not exclusively this Agreement) between Contractor and Subcontractor is insufficient to pay Contractor's claims against Subcontractor under said agreement, Subcontractor hereby authorizes Contractor, in its sole discretion and judgment, to use the funds due Subcontractor under any agreement to pay amounts due or likely to become due Contractor in connection with Subcontractor's work under any other agreement between Subcontractor and Contractor, including but not exclusively this Agreement.

32. **Project Statement.** Subcontractor has received Exhibit P attached hereto which is the Project Statement for the project. Subcontractor shall provide a copy of this Project Statement to any subcontractor or supplier from whom subcontractor procures labor or materials for use on this project.

SUBCONTRACTOR ACKNOWLEDGES THAT IS HAS RECEIVED FULL AND SUFFICENT CONSIDERATION FOR THIS PROVISION AND THAT THIS PROVISION IS A MATERIAL INDUCEMENT FOR THE CONTRACTOR ENTERING INTO THIS AGREEMENT.

33. **Miscellaneous.**

(a) All matters relating to the validity, performance, or interpretation of this Subcontract shall be governed by the law of the State of North Carolina.

(b) This Subcontract, including the Contract Documents and other documents incorporated herein by reference, embodies the entire agreement of the parties and supersedes all prior negotiations, proposals, agreements, purchase orders and understandings relating to the subject matter hereof.

(c) This Subcontract may not be changed and no requirement hereof may be waived except as herein provided or by a writing signed by a duly authorized officer or agent of each party.

(d) The provisions of this Subcontract and the Contract Documents are intended to supplement and complement each other. If, however, any provision of this Subcontract irreconcilably conflicts with a provision of the Contract, the provision imposing the greater duty on the Subcontractor shall govern.

(e) A waiver by Contractor of any term, condition, or requirement of this Subcontract shall be not deemed a waiver of any of the other terms, conditions, or requirements. None of the remedies provided Contractor by this Subcontract are intended to be exclusive, and Contractor expressly reserves the right to exercise any other remedy provided at law or in equity.

(f) Where the context requires, neuter terms used herein shall include the masculine and feminine, and singular terms shall include the plural, and vice versa.

Initials: _____

_____

SAMPLE

(g) If the Prime Contract is, or is determined to be, under seal, then the parties agree this Subcontract shall be deemed to be under seal; otherwise this Subcontract shall not be under seal.

(h) Storage of materials on site will be restricted. Material deliveries, jobsite storage, etc. must be coordinated with the Contractor's Superintendent. The Subcontractor shall be responsible for the delivery, unloading, storage, and protection of all materials and supplies used in connection with the Work covered under this Subcontract. The Subcontractor is responsible for protection of his own work and materials and is to take special care in material inventories to guard against weather damage, misplacement and theft.

(i) Contractor will be arbiter in any case where the Contract Documents are in conflict, incomplete or unclear. Contractor's decision in the matter shall be final.

(j) No broadcast radios will be allowed on the project.

SAMPLE

Initials: _____

_____

IN WITNESS WHEREOF, the parties have duly executed this Subcontract as of the date first above written.

BARNHILL CONTRACTING COMPANY

By: _____
Barry Harden Vice President Operations

Attest:

_____ Date: _____
Asst. Secy.

Subcontractor: _____

Attest: By: _____

_____ Date: _____

Subcontractor Check One:

_____ Corporation

_____ Partnership/Joint Venture

_____ Individual

Initials: _____

_____

SAMPLE

ATTACHMENT A – SCOPE OF WORK

Pursuant to Paragraph1 of this Subcontract, Subcontractor shall prosecute and complete the following Work:

ACCEPTED ALTERNATES INCLUDED IN THIS SUBCONTRACT:

Initials: _____

_____

ATTACHMENT B – CONTRACT DOCUMENTS

The Contract Documents referred to in Paragraph 1 and elsewhere in this Subcontract consist of the Prime Contract and the following:

Initials: _____

_____

ATTACHMENT C – SUPPLEMENTAL PRICE SCHEDULE

Unit Prices - Pursuant to Paragraphs 2, 9, and 10 of this Subcontract, the following unit prices shall be used in determining the Price and any adjustments thereto, without limitation unless expressly provided herein.

Allowances - The Price specified on Page 1 of the Subcontract includes the following allowances for the parts of the Work specified below, to be furnished by Subcontractor in accordance with the Contract Documents.

Initials: _____

_____

ATTACHMENT D – PERFORMANCE SCHEDULE

Pursuant to Paragraph 4 of this Subcontract and without limiting the provisions thereof, Subcontractor shall perform the Work and its several parts according to the following specific schedule, and as the same may be revised from time to time by Contractor.

Subcontractor understands the intense construction effort required for this project and will exercise detailed planning for procurement, delivery scheduling and supplying the various areas of construction for the project in such a manner as to not pose a hindrance to other trades or Contractor's work.

Subcontractor is responsible for fully coordinating its Work with all work shown by the Contract, i.e. Mechanical, Plumbing and Electrical Drawings.

This Subcontract includes the necessary number of trips to the jobsite to maintain the Construction Schedule.

Enclosed is a preliminary schedule for your review. Refer to Paragraph 4 in Subcontract for details.

TIME IS OF THE ESSENCE in this Subcontract. This is repeated herein for special emphasis.

Initials: _____

_____

ATTACHMENT E – APPLICATION FOR PAYMENT

TO: BARNHILL CONTRACTING COMPANY, BUILDING DIVISION, P O BOX 1529, TARBORO, NC 27886

FROM: _____

PROJECT: _____

PAYMENT REQUEST NO.: _____ SUBCONTRACT NO.: _____

PERIOD: _____ TO _____

STATEMENT OF CONTRACT ACCOUNT:

1.	Original Contract Amount	_____
2.	Approved Changes (Net) (Add/Deduct) (per attached breakdown)	_____
3.	Adjusted Contract Amount	_____
4.	Value of Work Completed to Date: (per attached breakdown)	_____
5.	Value of Approved Change Orders Completed to Date: (per attached breakdown)	_____
6.	Materials Stored on Site: (per attached breakdown)	_____
7.	Subtotal (lines 4 + 5 + 6)	_____
8.	Less Amount Retained (_____ %)	(_____)
9.	Subtotal Less Retainage (line 7 - 8)	
10.	Less Total Previously Certified	(_____)
11.	Net Amount of this Request (line 9 - 10)	_____

CERTIFICATE OF SUBCONTRACTOR:

I hereby certify that the work performed and the materials supplied to date, as shown above represent the actual value of accomplishment under the terms of the Contract (and all authorized changes thereto) between the undersigned and BARNHILL CONTRACTING COMPANY relating to the above referenced project.

I also certify that all payments have been made through the period covered by previous payments received from the contractor, to (1) all my subcontractors (sub-subcontractors) and (2) for all materials and labor used in or in connection with the performance of this Contract. I further certify that I have complied with Federal, State, and local tax laws, including Social Security laws and Unemployment Compensation laws and Workmen's Compensation laws.

I further understand and agree that payments previously received or requested herein do not relieve me in any way of any responsibility for compliance with all the terms and conditions of the contract agreement with BARNHILL CONTRACTING COMPANY.

DATE: _____ _____
SUBCONTRACTOR

Subscribed and sworn before me this _____

day of _____, 20_____. _____
AUTHORIZED SIGNATURE

Notary Public: _____ _____
PRINTED NAME

My Commission Expires: _____

Printed Name: _____ _____
TITLE

Initials: _____

_____

ATTACHMENT F – CERTIFICATE OF STORED MATERIALS

TO: BARNHILL CONTRACTING COMPANY

The below listed materials, supplies and equipment (hereinafter defined as material) are stored and can be inspected with reasonable notification.

Stored Material Item-Description	Stored Location	Quantity	Invoice Value (Invoice Copy Attached)

(Append additional sheets as needed.)

Subcontractor's material handling costs $ _____

Total Costs (invoice value plus handling cost) $ _____

Upon receipt of payment (payment defined as invoiced cost plus material handling cost without overhead and profit) as petitioned by the Subcontractor's Application for Payment No. _____

Item 6, dated _____, the undersigned hereby certifies the following:

1. Full, clear and unencumbered title and ownership of the material is transferred, assigned and vested to: _____.
   (Name of Owner)

2. The material is to be held in trust for the benefit of _____ and for the exclusive use of the _____ (Project Name) until such time as the materials are incorporated into the work. The Subcontractor re-affirms his continued obligation to store and protect the material until completion of the work. All cost related to procuring, transporting, insuring and improving, repairing or leasing facilities for storage of the material, is the sole cost of the Subcontractor.

   As evidenced and surety of this obligation and for protection of the Owner's property, the Subcontractor will provide and maintain an "All Risks" insurance policy for the invoiced value of the material. Further, the Subcontractor agrees to be responsible and accountable for any and all damage to or destruction of the material, insurance coverage notwithstanding.

3. A current Certificate of Insurance coverage is attached or presently on file with Barnhill Contracting Company.

ATTEST: (Notary Public)

_____
SUBCONTRACTOR NAME

By: _____
Signature

_____
Title

Initials: _____

_____

ATTACHMENT G – WAIVER AND RELEASE UPON PROGRESS PAYMENTS

FOR USE BY SUBCONTRACTOR

The undersigned supplier/subcontractor/materialman/laborer ("Supplier") acknowledges that Supplier has certain lien rights which are created by statute as a result of furnishing labor, materials, or rental equipment at the site ("Premises") of the improvement ("Improvement") which is the site of the Project described below. Supplier either directly or indirectly through a subcontractor or Barnhill Contracting Company ("Contractor") has made a written application for a Progress Payment as indicated below. Supplier knowingly WAIVES and RELEASES any and all lien rights it has or may have for furnishing labor, materials, or rental equipment at the site of the Improvement as of the date of the application for the Progress Payment as indicated below.

Upon receipt of this Progress Payment by Contractor, Supplier acknowledges and agrees that Contractor has paid for all labor, materials, or rental equipment furnished by Supplier, directly or indirectly, pursuant to Supplier's contract with Contractor, or with any supplier and or subcontractor of Contractor, or with any supplier and/or subcontractor at any tier thereafter for furnishing labor, materials, or rental equipment at the Premises, which is the site of the Project described below.

For and in consideration of this Progress Payment and other valuable considerations, and for the purpose of inducing the making of this Progress Payment, Supplier hereby waives, releases, warrants and agrees, as follows:

1) WAIVER and RELEASE: Supplier hereby waives, releases and relinquishes any and all rights to any mechanics, laborers' and/or materialmen's liens (including both liens on funds and on real property), and any and all other rights (including, but not limited to, equitable liens, rights to obtain the issuance of stop notice, and rights to assert any claim with respect to any payment or surety bond) relating to the Project, or to funds paid or to be paid in connection with any work done to and/or Improvements made on or to the Premises. This WAIVER and RELEASE relates and applies only to labor, materials or rental equipment furnished to the Improvements by Supplier through the date of the application for this Progress Payment.
2) WARRANTIES: Supplier represents and warrants that:
   a) The person executing this Waiver and Release Upon Progress Payment has the right and authority to sign and execute this document on behalf of Supplier.
   b) Supplier has fully paid or within five (5) days of the date of this Progress Payment, shall fully pay:
      i) all persons who have performed or furnished labor or professional design or surveying services at the site of the Improvement; and
      ii) all persons who have furnished any materials or rental equipment, on the Premises or to the Project; and
      iii) all taxes, licenses, fees, assessments or any other payments required to be made by Supplier to any governmental authority having jurisdiction to assess same.
   c) Supplier has not signed or executed any security agreement or other document which affects title to any part of the Premises or to any material used in connection with Improvements to the Premises:
   d) Supplier has not asserted and shall not assert a lien on funds or on the Premises, and
   e) Supplier has not assigned and shall not assign to any person or entity any right or claim for payment regarding labor, materials, or rental equipment furnished on or to the Premises.
3) INDEMNITY: Supplier agrees to defend and indemnify the owner of the Premises which is the site of the Project described below ("Owner"), Contractor, and Contractor's supplier or subcontractor with whom Supplier has a contract for which this Progress Payment has been received, from and against any and all demands or claims for payment and losses (including reasonable attorney's fees) made by any person or entity who has furnished labor, materials, or rental equipment to Supplier for Improvements on the Premises, or made by any governmental authority for taxes, licenses, fees, assessments or other payments.

NOTICE: THIS IMPORTANT LEGAL DOCUMENT UNCONDITIONALLY WAIVES YOUR LIEN RIGHTS AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THESE RIGHTS. It is a crime (punishable by a fine not exceeding One Thousand and No/100 dollars ($1,000.00) or by imprisonment not to exceed two (2) years, or by both) to make any written statement relating to sums due or claimed to be due for labor, materials, or rental equipment furnished, at the site of Improvements to the Premises which is known to be false. N.C. General Statutes ' 44A-24.

Barnhill Project Number _____ Name of Owner: _____

County/State of Project: _____ Owner Project Number: _____

Progress Payment: _____ Amount $ _____ Date: _____

IN TESTIMONY WHEREOF, the Supplier has caused this Waiver and Release Upon Progress payment to be executed in its name by its _____ President (or General Partner), attested by its _____ Secretary, and its corporate seal to be hereto affixed (for Corporate Suppliers), by the authority of its Board of Directors (or Partners) first duly given, this _____ day of _____, 20 _____.

Subscribed and sworn before me this _____

day of _____, 20_____.

Notary Public: _____

My Commission Expires: _____

(Notary Seal)

_____
(Corporate Name, Individual or Partnership Name)

(Corp. Seal)
(If Applicable)

BY: _____

_____
(Print Name and Title)

ATTEST: _____
(Corp. Secretary)

Initials: _____

ATTACHMENT H – SUPPLIER/SUBCONTRACTOR INFORMATION SCHEDULE

Submitted by: _____
(Subcontractor Company Name)

Project Name: _____

Barnhill Project No.: _____

The following is a complete listing of the subcontractors and suppliers to be used by the Subcontractor named above as sources for furnishing and/or installing materials or equipment, the total value of which for any one such sub or supplier is expected to be $10,000.00 or more in connection with work on the above named project:

Sub/Supplier Name and Address	Sub/Supplier Contact Person	Contact's Telephone Number	Estimated Total Dollars to be Paid	Item of Work or Material Furnished

The information shown above is complete, true and correct to the best of my knowledge and belief.

_____
Subcontractor Signature

_____
Printed Name

Initials: _____

_____

ATTACHMENT I – SALES TAX SUMMARY

State of North Carolina
County Sales and Use Tax Report
Summary Totals & Certification

Contractor/Subcontractor: _____

Project Name: _____ For Period Ending: _____

	Total for County of:	Total for County of:	Total for County of:	Total for County of:	Total for County of:	Total for County of:	Total for County of:	Total All Counties**	Total for State**
Contractor									
Subcontractor(s)*									
County Total									

* Attach Subcontractor(s) report(s)
** Must balance with detail sheet(s)

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

Subscribed and sworn before me this _____

day of _____, 20_____.

Notary Public: _____

My Commission Expires: _____

Printed Name: _____

_____
Signature of Preparer

_____
Printed Name of Preparer

Note: This Certified Statement May be Subject to audit.

Initials: _____

_____

ATTACHMENT I – SALES TAX DETAIL

SALES TAX REPORT

Project Name: _____

General Contractor: Barnhill Contracting Company

Owner: _____

Subcontractor: _____

Period: _____ To _____

Vendor	Address	Invoice #	Date	Net Amount	NC Tax Amount	County Tax Amt	County Name
Total							

_____, being duly sworn, certifies that the foregoing statement of sales taxes paid in connection with the referenced contract is true to the best of his or her knowledge and belief.

_____

Signature and Title)

_____

Printed Name

_____

Company Name and Address

Subscribed and sworn before me this _____

day of _____, 20_____.

Notary Public: _____

My Commission Expires: _____

Printed Name: _____

Initials: _____

_____

ATTACHMENT J – UNCONDITIONAL FINAL WAIVER AND RELEASE

FOR USE BY SUBCONTRACTOR

The undersigned supplier/subcontractor/materialman/laborer ("Supplier") acknowledges that Supplier has certain lien rights which are created by statute as a result of furnishing labor, materials, or rental equipment at the site ("Premises") of the improvement ("Improvement") which is the site of the Project described below. Supplier either directly or indirectly through a subcontractor or Barnhill Contracting Company ("Contractor") has made a written application for Final Payment as indicated below. Supplier knowingly WAIVES and RELEASES any and all lien rights it has or may have for furnishing labor, materials, or rental equipment at the site of the Improvement.

Upon receipt of this Final Payment by Contractor, Supplier acknowledges and agrees that Contractor has paid for all labor, materials, or rental equipment furnished by Supplier, directly or indirectly, pursuant to Supplier's contract with Contractor, or with any supplier and or subcontractor of Contractor, or with any supplier and/or subcontractor at any tier thereafter for furnishing labor, materials, or rental equipment at the Premises, which is the site of the Project described below.

For and in consideration of this Final Payment and other valuable considerations, and for the purpose of inducing the making of this Final Payment, Supplier hereby waives, releases, warrants and agrees, as follows:

1) WAIVER and RELEASE: Supplier hereby waives, releases and relinquishes any and all rights to any mechanics, laborers' and/or materialmen's liens (including both liens on funds and on real property), and any and all other rights (including, but not limited to, equitable liens, rights to obtain the issuance of stop notice, and rights to assert any claim with respect to any payment or surety bond) relating to the Project, or to funds paid or to be paid in connection with any work done to and/or Improvements made on or to the Premises.
2) WARRANTIES: Supplier represents and warrants that:
   a) The person executing this Unconditional Final Waiver and Release has the right and authority to sign and execute this document on behalf of Supplier.
   b) Supplier has fully paid:
      i) all persons who have performed or furnished labor or professional design or surveying services at the site of the Improvement; and
      ii) all persons who have furnished any materials or rental equipment, on the Premises or to the Project; and
      iii) all taxes, licenses, fees, assessments or any other payments required to be made by Supplier to any governmental authority having jurisdiction to assess same.
   c) Supplier has not signed or executed any security agreement or other document which affects title to any part of the Premises or to any material used in connection with Improvements to the Premises:
   d) Supplier has not asserted and shall not assert a lien on funds or on the Premises, and
   e) Supplier has not assigned and shall not assign to any person or entity any right or claim for payment regarding labor, materials, or rental equipment furnished on or to the Premises.
3) INDEMNITY: Supplier agrees to defend and indemnify the owner of the Premises which is the site of the Project described below ("Owner"), Contractor, and Contractor's supplier or subcontractor with whom Supplier has a contract for which this Final Payment has been received, from and against any and all demands or claims for payment and losses (including reasonable attorney's fees) made by any person or entity who has furnished labor, materials, or rental equipment to Supplier for Improvements on the Premises, or made by any governmental authority for taxes, licenses, fees, assessments or other payments.

NOTICE: THIS IMPORTANT LEGAL DOCUMENT UNCONDITIONALLY WAIVES YOUR LIEN RIGHTS AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THESE RIGHTS. It is a crime (punishable by a fine not exceeding One Thousand and No/100 dollars ($1,000.00) or by imprisonment not to exceed two (2) years, or by both) to make any written statement relating to sums due or claimed to be due for labor, materials, or rental equipment furnished, at the site of Improvements to the Premises which is known to be false. N.C. General Statutes ' 44A-24.

Barnhill Project Number _____ Name of Owner: _____

County/State of Project: _____ Owner Project Number: _____

Final Payment: _____ Amount $ _____ Date: _____

IN TESTIMONY WHEREOF, the Supplier has caused this Waiver and Release Upon Progress payment to be executed in its name by its _____ President (or General Partner), attested by its _____ Secretary, and its corporate seal to be hereto affixed (for Corporate Suppliers), by the authority of its Board of Directors (or Partners) first duly given, this _____ day of _____, 20 _____.

Subscribed and sworn before me this _____

day of _____, 20_____.

Notary Public: _____

My Commission Expires: _____

(Notary Seal)

_____
(Corporate Name, Individual or Partnership Name)

(Corp. Seal)
(If Applicable)

BY: _____

_____
(Print Name and Title)

ATTEST: _____
(Corp. Secretary)

Initials: _____

_____

ATTACHMENT K – INSURANCE

Pursuant to the Insurance requirements outlined in this contract, the Subcontractor shall acquire and maintain at least the following insurance coverage in addition to any other coverage or any greater limits required by the contract documents both during the entire phase of construction as well as for other time durations where specifically noted:

Type of Insurance	Required Coverage /Minimum Limits	Policy / Coverage Provisions Required
Workers' Compensation & Employer Liability	1. **Statutory Coverage** in accordance with the laws of the state(s) in which the work will be performed. 2. Employers Liability – Minimum limits of **$500,000.00** Per Occurrence for Bodily Injury by Accident as well as Injury by Disease.	▪ Coverage will cover all of Subcontractor's Employees, officers, directors, shareholders, agents, owners, volunteers and consultants. ▪ Policy will contain a "Waiver of Subrogation" that runs in favor of the Contractor as outlined in the terms and conditions of the contract. Policy should contain ISO "Waiver of Subrogation: Endorsement #WC000313 (04/84) or Equivalent Form or language. ▪ Where applicable, USL&H Endorsement will be attached to the policy. ▪ Where applicable, the Maritime Coverage Endorsement will be attached to the policy.
Commercial Automobile Liability Coverage	1. Combined Single limit of **$1,000,000.00** for Bodily Injury and Property Damage per each Occurrence.	▪ Policy will provide Liability coverage for all owned, non-owned, and hired vehicles. ▪ Contractor, and any other designated parties named by the Contractor, will be listed as an "Additional Insured" on the policy for the duration of the Subcontractor's work. ▪ The policy will provide a "Waiver of Subrogation" Endorsement. ISO Form # CA0444 (03/08) is recommended or use of equivalent form or language. Such Waiver will be in favor of the Contractor and any other parties designated by the Contractor.
Property / Inland Marine Coverage	1. Subcontractor will maintain their own Property and/or Inland Marine Insurance to cover their tools, equipment, materials, etc. against loss.	▪ All such policies shall contain the appropriate "Waiver of Subrogation" endorsement that runs in the favor of the Contractor and any other parties designated by the Contractor to be included in such endorsements. ▪ Contractor will advise Subcontractor as to whether or not a "Builders Risk" policy has been obtained by the Contractor or Owner that includes the Subcontractor as a "Scheduled Named Insured".
Commercial General Liability Coverage	1. **$1,000,000.00** Per Occurrence for Bodily Injury and Property Damage. 2. **$2,000,000.00** "**Per Project /Per Location Aggregate** specific to the job location noted in this contract. (ISO Form CG2503 (03-97) or a manuscript endorsement using similar language and equivalent coverage, is to be added to the policy to satisfy this requirement)	▪ Coverage to be written on CGL ISO Form CG0001 (10-01) Occurrence Based Policy form to provide liability arising from the premises, operations, independent contractors, products & completed operations, personal injury & advertising injury as well as exposure to explosion, collapse and underground hazards (XCU), ▪ Contractor, Owner and all other Contractor designated parties will be named as "Additional Insureds" on the policy using a combination of ISO Form CG2033 as well as CG2037 or any manuscript forms containing similar wording and equivalent coverage for ongoing operations as well as Products and Completed Operations. The endorsements will also reflect that such coverage of the Subcontractor will apply on a "primary and non-contributing basis" before any other insurance, including self-insurance or deductibles, is considered. ▪ Subcontractor will maintain the CGL Policy and denoted coverage form and endorsements for a period of three (3) years following the completion of the project. All terms and conditions outlined in this section must be included in the continuation of coverage for the period noted.
Commercial Umbrella / Excess Coverage	1. Minimum of **$1,000,000.00** Per Occurrence/Aggregate Limits.	▪ The policy must be endorsed to "be as broad as the primary policies" in regard to coverage provisions. ▪ Additional Insured's required on the Auto and General Liability Policies must also be included on the Umbrella / Excess Policy. ▪ The umbrella policy for such additional insured(s) shall apply as primary coverage before any other insurance, including self-insurance or deductibles, maintained by, or provided to, the additional insured (s) is considered.

Initials: _____

_____

ATTACHMENT K – INSURANCE

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

PRODUCER	THIS CERTIFICATION IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.	
Insurance Company Name Address City, State, ZIP	INSURERS AFFORDING COVERAGE	NAIC #
INSURED Contractor Name Address City, State, ZIP	INSURER A: Insurance Company Name	
	INSURER B: Insurance Company Name	
	INSURER C:	
	INSURER D:	
	INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	ADD'L INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YYYY)	POLICY EXPIRATION DATE (MM/DD/YYYY)	LIMITS	
		GENERAL LIABILITY	GL123456	07/01/2009	07/01/2010	EACH OCCURRENCE	$ 1,000,000
		[X] COMMERCIAL GENERAL LIABILITY				DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 100,000
		[ ] CLAIMS MADE [X] OCCUR				MED EXP (Any one person)	$ 5,000
		[X] Contractural				PERSONAL & ADV INJURY	$ 1,000,000
		[X] XCU, Indp Contrs				GENERAL AGGREGATE	$ 2,000,000
		GEN'L AGGREGATE LIMIT APPLIES PER:				PRODUCTS - COMP/OP AGG	$ 2,000,000
		[ ] POLICY [X] PRO-JECT [X] LOC					$
		AUTOMOBILE LIABILITY	BA123456	07/01/2009	07/01/2010	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
		[X] ANY AUTO				BODILY INJURY (Per person)	$
		[ ] ALL OWNED AUTOS				BODILY INJURY (Per accident)	$
		[ ] SCHEDULED AUTOS				PROPERTY DAMAGE (Per accident)	$
		[X] HIRED AUTOS					
		[X] NON-OWNED AUTOS					
		[ ]					
		GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT	$
		[ ] ANY AUTO				OTHER THAN AUTO ONLY: EA ACC	$
						AGG	$
		EXCESS / UMBRELLA LIABILITY	UM123456	07/01/2009	07/01/2010	EACH OCCURRENCE	$ 1,000,000
		[X] OCCUR [ ] CLAIMS MADE				AGGREGATE	$ 1,000,000
		[ ] DEDUCTIBLE					$
		[X] RETENTION $ 10,000					$
							$
		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	WC123456	07/01/2009	07/01/2010	[X] WC STATU-TORY LIMITS [ ] OTH-ER	
		ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N [N]				E.L. EACH ACCIDENT	$ 500,000
		(Mandatory in NH) If yes, describe under SPECIAL PROVISIONS below				E.L. DISEASE - EA EMPLOYEE	$ 500,000
						E.L. DISEASE - POLICY LIMIT	$ 500,000
		OTHER					

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

BCC Job # Name of Project:

Certificate Holder, Owner, and any other parties required by contract are Additional Insured under Commercial General Liability (per endmts CG 20 33 and CG 20 37 or equivalent form), Auto Liability, and Umbrella Liability regarding captioned project. Waiver of Subrogation applies in favor of Certificate Holder, Owner, and any other parties required by contract on all policies. Coverage on General Liability and Umbrella Liability is primary and non-contributory. Coverages afforded by the above described policies will not be cancelled without 30 days prior written notice to the certificate holder.

CERTIFICATE HOLDER	CANCELLATION
Barnhill Contracting Company P O Box 1529 Tarboro, NC 27886	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE

ACORD 25 (2009/01)

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The ACORD name and logo are registered marks of ACORD

Initials: _____

IMPORTANT

If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. A statment on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

DISCLAIMER

This Certificate of Insurance does not constitute a contract between the issuing insurer(s), authorized representative or producer, and the certificate holder, nor does it affirmatively or negatively amend, extend or alter the coverage afforded by the policies listed thereon.

ACORD 25 (2009/01)

Initials: _____

ATTACHMENT L – TEMPORARY FACILITIES

The temporary facilities furnished by Contractor shall be without charge to Subcontractor, except as otherwise indicated.

In connection with its furnishing of the temporary facilities indicated, Contractor shall not be liable for conditions beyond the control of Contractor which may interrupt, delay or otherwise interfere with the availability of such facilities to Subcontractor. Unless otherwise expressly indicated, the temporary facilities furnished by Contractor shall not be for the exclusive use of Subcontractor, but shall be shared by others performing work on the Project. Contractor therefore reserves the exclusive right to schedule the use of any facilities in accordance with its determination as to the needs of the Project, and shall incur no liability as a result thereof.

If either party from time to time furnishes the other a crane, hoisting equipment, or other machinery or equipment, with or without an operator, for such party's exclusive use, then the using party shall at all times furnish adequate professional certified and competent supervision and direction therefore and shall be fully liable and responsible for safe and proper care, use and custody of such machinery or equipment.

1. a. Temporary lighting for the building interior shall be provided by the Electrical Subcontractor and shall comply with OSHA requirements at no less than one light per room, and one light per stair landing. The Electrical Subcontractor shall maintain temporary lighting during construction, including furnishing and installation of all bulbs required. Should any Subcontractor require lighting in excess of this amount for the performance of his own work, additional lighting shall be each Subcontractor's responsibility.

   b. All temporary power and lighting installation by the Electrical Subcontractor shall be installed and maintained in a neat and orderly manner and during construction shall give continuous service and provide safe working conditions.

   c. All routing of temporary power and lighting shall be subject to approval by the Contractor's Project Superintendent, in conjunction with OSHA regulations so as not to interfere with the Work.

   d. It is Contractor's intent that the temporary electric service shall remain in service, until such time as the permanent electric service is certified ready for use by the Power Company and/or completion of this Project. However, should a Subcontractor require the use of permanent power prior to Project completion, a written request shall be delivered to Contractor sixty (60) days in advance indicating conditions requiring such usage.

   e. The Electrical Subcontractor shall provide 110 volts temporary power for the building and trailer compound area. The Electrical Subcontractor shall provide adequate 20 amp/110 volt duplex outlets on each floor such that no extension cord exceeds 100 feet in length. All transformers, disconnects, poles, conduits, wiring, breakers, fuses and switches, and flood lighting adequate for night work mounted on skids shall be provided by the Electrical Subcontractor. The Electrical Subcontractor shall provide appropriate enclosures for environment in which used, in compliance with N.E.C., N.E.M.A. and local standards. Each Subcontractor shall provide their own extension cords from these outlets. Electrical Subcontractor shall also provide power for personnel hoists and tower cranes.

   f. Utility current usage costs for temporary power and lighting shall be paid by The Contractor. However, the Electrical Subcontractor shall pay for all costs of establishment of temporary electrical service.

2. a. The Contractor shall provide safety rails as required to maintain OSHA approved safety requirements. Safety rails required solely for Subcontractor's work shall be provided by Subcontractor at its cost. Each Subcontractor shall be responsible for maintenance and replacement of safety rails that are removed or damaged in connection with its own work and shall be responsible for safety regulation violations created by such removal or damage. No handrails shall be removed without Contractor's Project Superintendent's permission. Failure of Subcontractor to maintain and replace the safety rails or post which they have removed shall be grounds for termination and/or expulsion immediate from the jobsite at the discretion and direction of Contractor's Project Superintendent. Further, Subcontractor shall be responsible for all costs incurred by Contractor to replace said safety railing.

Initials: _____

_____

Subcontractor hereby waives any notification requirements.

b. Unless otherwise noted in the Scope of Work, Attachment "A", each Subcontractor shall provide all scaffolding and/or hoisting that is required for the performance of his own work. Swinging stages shall be protected, so as not to damage exterior finishes, windows, and roof areas.

c. Should the safety railing not be installed in an area where this Subcontractor is currently working, it shall be this Subcontractor's responsibility to insure that his workmen are properly tied off and otherwise adequately protected.

3. All hoisting and/or scaffolding required for work under this Subcontract is the responsibility of the Subcontractor.

4. a. Specific reference for emphasis is made to Paragraph 17 of this Subcontract regarding the Subcontractor's responsibility for cleaning up. These clean-up procedures will be strictly enforced.

b. Contractor will provide a trash dumpster on the jobsite for the use of all Subcontractors to aid in the removal of trash and debris.

5. a. Coordination of all on-site and off-site and other construction parking areas shall be allocated to Subcontractors' employees and suppliers by Contractor's Project Superintendent. All off-site parking shall be provided to this Subcontractors' employees, its subcontractors and material suppliers by each Subcontractor, inclusive of security and/or protection. Violators of any restrictions on parking shall be dismissed from the Project.

b. Subcontractor shall be responsible for the delivery, unloading, storage, and protection of all materials and supplies used in connection with the Work covered under this Subcontract. Storage of materials on site will be restricted. Material deliveries, jobsite storage, etc. must be coordinated with Contractor's Superintendent.

6. Any Subcontractor requiring a telephone for its own field office shall first coordinate his request with Contractor's Project Superintendent. All cost, including installation of the temporary telephone service, and removal shall be paid by Subcontractor. No temporary telephones shall be placed in the new building areas, and all installations shall be made so as not to interfere with traffic, work areas, cranes, material handling equipment, or work of other Subcontractors.

7. Break or lunch trucks are excluded from the construction site unless authorized by Contractor's Project Superintendent.

8. A totally fenced job site shall be arranged at the discretion of Contractor's Project Superintendent. Floodlights shall be provided on the site by the Electrical Subcontractor, at his expense.

9. a. Temporary water service, including any permits, fees or connection costs, shall be provided to the building by the Site Utilities Subcontractor. The Plumbing Subcontractor shall provide one (1) hose bib per floor consisting of two spigots per location and two (2) maintenance and removal shall be provided by the Plumbing Subcontractor through the building construction period.

b. Plumbing Subcontractor shall determine the best location for the source of water, and coordinate with Sitework Subcontractor and Contractor prior to installation. Installation of riser and branch piping shall be coordinated and approved by Contractor's Project Superintendent, so as not to interfere with the Scope of Work of other subcontractors.

c. Contractor shall pay for costs of temporary water usage.

Initials: _____

_____

d. Plumbing Subcontractor shall provide Contractor's job trailers with temporary water hookup to sinks and toilets. Waste piping and vents shall be provided by the Plumbing subcontractor. However, the waste holding tank and disposal fees shall be paid by Contractor.

e. Contractor shall provide all Subcontractors adequate temporary portable sanitary facilities for the duration of the Project. Use of the permanent building water closets is strictly prohibited. Anyone using the permanent water closets shall be expelled from the Project, and the Subcontractors responsible for that person shall clean up the area at his expense.

10. a. Each individual Subcontractor shall be required to furnish and maintain fire extinguishers for all their equipment, as required by the latest Federal, State and Local regulations. All Subcontractors involved in burning, welding, or cutting operations shall furnish their own adequate fire extinguishers (tested and full) or protective enclosures.

b. During roofing and upon completion of roofing operations, Contractor shall provide a lock on the roof hatches and doors leading onto the roof areas. Only authorized Subcontractor's workmen shall be allowed onto the roof. Contractor shall implement a sign-in and-out log for authorized employees who have signed for keys to the locks. Responsibility for roof damages will be borne by those trades who checked out keys. All keys are to be returned to Contractor's Project Superintendent on a daily basis. Similar programs shall be instituted for electrical closets, elevator room and penthouse areas.

c. All Subcontractors are required to protect and have respect for all adjacent property owners' fences, entrances, curbs, and green areas. Responsibility and cost of restoration due to Subcontractor abuse shall be borne by the responsible Subcontractor. The health, welfare, and safety of all persons working on the Project and of adjacent property owners is everyone's responsibility and shall be treated with the utmost consideration. Violators shall be released from the Project at Contractor's Project Superintendent's discretion.

11. Subcontractor will be responsible for supplying his own ice, water, cups, dispensers, etc., for all of Subcontractor's employees for the duration of its work on the Project.

12. Safety Netting - Contractor will assure proper installation of safety nets in order to protect workers, pedestrians, on site and adjacent to property.

13. Cold weather protection - Contractor will provide adequate weather protection and heat in order to maintain a satisfactory work environment. Subcontractor's individual needs will be dealt with on a one-to-one basis and unless otherwise noted, is the responsibility of Subcontractor.

14. OPEN FIRES ON JOBSITE ARE FORBIDDEN.

Initials: _____

_____

BARNHILL CONTRACTING COMPANY
Subcontractor Daily Progress Report

Project:_____ Job #:_____ Date:_____ Day: _____

A. Subcontractor: _____ Number of Workers on Site:_____

1. Company Owned Equipment on Site: _____

_____

_____

2. Rental Equipment on Site: _____

_____

_____

B. Second Tier Subcontractor:_____ Number of Workers on Site: _____

1. Company Owned Equipment on Site: _____

_____

_____

2. Rental Equipment on Site: _____

_____

_____

Summary of Work Performed: _____

_____

_____

_____

_____ _____

Subcontractor Signature BCC Superintendent Signature

Initials: _____

_____

Attachment N
Barnhill Contracting Company
Lower Tier Subcontractor/Supplier Conditional Release of Claim

TO: Barnhill Contracting Company
FROM: _____
(Lower Tier Subcontractor or Supplier)
PROJECT: _____
OWNER: _____
LOCATION: _____

The undersigned being duly sworn certifies that he/she is the _____ (Title) of _____ (Lower tier Subcontractor/Supplier), hereinafter referred to as the "Company", a party to a contract with _____ (First tier contracted with Barnhill Contracting) on the above named project.

The undersigned makes this affidavit well knowing that Barnhill Contracting Company relies upon the truth of this affidavit in making payment. Further, the undersigned makes this affidavit and certificate to induce Barnhill Contracting to make payment for work performed and/or invoiced on this project for the period through _____ (Date) where the amount of $_____ is owed, and that upon the condition of receipt of said payment, the company fully releases all claims and waives all liens against the owner, its premises and property, Barnhill Contracting Company and its surety, if any.

Previous payment(s) for work performed and/or supplied on this project have been received by the undersigned from the beginning of the work through _____ (Date) in the amount of $_____. Total contract and/or purchase order commitments the company is obligated to perform on this project, both paid and unpaid, are the total sum of $_____.

I do hereby certify that all persons, firms or corporations, without limitation, who have performed work, rendered services, provided labor, materials, equipment, supplies or any other items used by the company in connection with the project have been paid in full for same up to the current period of _____(Date) and that other than those exceptions listed, there is no entitlement by the company's employees, subcontractors, material suppliers, or service providers to a lien against the owner, its premises or property, or claim against Barnhill Contracting Company or any funds owed to Barnhill Contracting Company on account of the project.

I further certify that all of the foregoing work has been properly provided, and if applicable, installed in accordance with the contract documents governing the project, and in accordance with all authorities having jurisdiction over said project.

I further certify that all workers compensation, social security, unemployment insurance and other insurance, and all federal, state and local taxes or fees have been paid in full to date; and that a proper reserve has been set up for those taxes or premiums which have been incurred but are not yet due.

I further certify that the company is complying with all applicable federal, state and local laws with respect to the requirements of this project.

In full agreement conditioned only by the above, I affix my signature this ___day of _____, 20___.

By: _____, _____ (Signature, title)

Printed name: _____

I, _____, a notary public for_____ county, _____, do hereby

certify that _____ personally appeared before me and acknowledged the due execution of the

foregoing instrument. Witness my hand and official seal on this ____ day of _____, 20 ___.

_____ (Seal) _____ (Printed name)

My commission expires on _____.

Initials: _____

_____

Attachment O
Barnhill Contracting Company
Lower Tier Subcontractor/Supplier Unconditional Final Release of Claim

TO: Barnhill Contracting Company
FROM: _____
(Lower Tier Subcontractor or Supplier)
PROJECT: _____
OWNER: _____
LOCATION: _____

The undersigned being duly sworn certifies that he/she is the _____ (Title) of _____ (Lower tier Subcontractor/Supplier), hereinafter referred to as the "Company", a party to a contract with _____ (First tier contracted with Barnhill Contracting) on the above named project.

The undersigned makes this affidavit well knowing that Barnhill Contracting Company relies upon the truth of this affidavit in making payment. Further, the undersigned makes this affidavit and certificate to induce Barnhill Contracting to make final payment for work performed and/or invoiced on this project for the period through _____ (Date) where the amount of $_____ is owed, and that upon the condition of receipt of said payment, the company fully and unconditionally releases all claims and waives all liens against the owner, its premises and property, Barnhill Contracting Company and its surety, if any.

Previous payment(s) for work performed and/or supplied on this project have been received by the undersigned from the beginning of the work through _____ (Date) in the amount of $_____. Total contract and/or purchase order commitments the company is obligated to perform on this project, both paid and unpaid, are the total sum of $_____.

I do hereby certify that all persons, firms or corporations, without limitation, who have performed work, rendered services, provided labor, materials, equipment, supplies or any other items used by the company in connection with the project have been paid in full for same up to the current period of _____(Date) and that other than those exceptions listed, there is no entitlement by the company's employees, subcontractors, material suppliers, or service providers to a lien against the owner, its premises or property, or claim against Barnhill Contracting Company or any funds owed to Barnhill Contracting Company on account of the project.

I further certify that all of the foregoing work has been properly provided, and if applicable, installed in accordance with the contract documents governing the project, and in accordance with all authorities having jurisdiction over said project.

I further certify that all workers compensation, social security, unemployment insurance and other insurance, and all federal, state and local taxes or fees have been paid in full to date; and that a proper reserve has been set up for those taxes or premiums which have been incurred but are not yet due.

I further certify that the company is complying with all applicable federal, state and local laws with respect to the requirements of this project.

In full agreement conditioned only by the above, I affix my signature this ___day of _____, 20___.

By: _____, _____ (Signature, title)

Printed name: _____

I, _____, a notary public for_____ county, _____, do hereby

certify that _____ personally appeared before me and acknowledged the due execution of the

foregoing instrument. Witness my hand and official seal on this ____ day of _____, 20 ___.

_____ (Seal) _____ (Printed name)

My commission expires on _____.

Initials: _____

_____

Attachment P
Contractor's Project Statement

Pursuant to N.C. Gen. Stat. 44A-27(f) (eff.1/1/13), the contractor shall provide to each subcontractor that it engages to perform labor or furnish material in the performance of the construction contract all the following information:

1) The name of the project:

2) The physical address of the project:

3) The name of the contracting body:

4) The name of the contractor:

   Barnhill Contracting Company

5) The name, phone number, and mailing address of an agent authorized be the contractor to accept service for the request for payment bond, the notice of public subcontract, and the notice of claim on payment bond referenced in N.C. Gen. Stat. 44A-27(b):

   Barry Harden
   Barnhill Contracting Company
   P.O. Box 31765
   Raleigh North Carolina 27622
   919-785-9181
   bharden@barnhillcontracting.com

6) The name and address of the principal place of business of the surety issuing the payment bond required by G.S. 44A-26(a) for the construction contract:

   Travelers Casualty and Surety Company of America
   Bond and Financial Products Construction Services
   1 Tower Square, 2S2B
   Hartford, Connecticut 06183

   Each subcontractor shall provide to each subcontractor or supplier with which it contracts to perform labor or furnish material in the performance of the construction contract a copy the Contractor's Project Statement.

Initials: _____

_____

ATTACHMENT E – APPLICATION FOR PAYMENT

Barnhill Contracting Company, 800 Tiffany Blvd., PO Box 7948, Rocky Mount, NC 27804

FROM: _____

PROJECT: Trask Middle School

PAYMENT REQUEST NO.: _____ SUBCONTRACT NO.: _____

PERIOD: _____ TO _____

STATEMENT OF CONTRACT ACCOUNT:

1. Original Contract Amount _____
2. Approved Changes (Net) (Add/Deduct) (per attached breakdown) _____
3. Adjusted Contract Amount _____
4. Value of Work Completed to Date: (per attached breakdown) _____
5. Value of Approved Change Orders Completed to Date: (per attached breakdown) _____
6. Materials Stored on Site: (per attached breakdown) _____
7. Subtotal (lines 4 + 5 + 6) _____
8. Less Amount Retained (_____ %) (_____)
9. Subtotal Less Retainage (line 7 - 8)
10. Less Total Previously Certified (_____)
11. Net Amount of this Request (line 9 - 10) _____

CERTIFICATE OF SUBCONTRACTOR:

I hereby certify that the work performed and the materials supplied to date, as shown above represent the actual value of accomplishment under the terms of the Contract (and all authorized changes thereto) between the undersigned and BARNHILL CONTRACTING relating to the above referenced project.

I also certify that all payments have been made through the period covered by previous payments received from the contractor, to (1) all my subcontractors (sub-subcontractors) and (2) for all materials and labor used in or in connection with the performance of this Contract. I further certify that I have complied with Federal, State, and local tax laws, including Social Security laws and Unemployment Compensation laws and Workmen's Compensation laws.

I further understand and agree that payments previously received or requested herein do not relieve me in any way of any responsibility for compliance with all the terms and conditions of the contract agreement with BARNHILL CONTRACTING.

DATE: _____ _____
SUBCONTRACTOR

Subscribed and sworn before me this _____

day of _____, 20_____. _____
AUTHORIZED SIGNATURE

Notary Public: _____ _____
PRINTED NAME

My Commission Expires: _____

Printed Name: _____ _____
TITLE

ATTACHMENT G – WAIVER AND RELEASE UPON PROGRESS PAYMENTS

FOR USE BY SUBCONTRACTOR

The undersigned supplier/subcontractor/materialman/laborer ("Supplier") acknowledges that Supplier has certain lien rights which are created by statute as a result of furnishing labor, materials, or rental equipment at the site ("Premises") of the improvement ("Improvement") which is the site of the Project described below. Supplier either directly or indirectly through a subcontractor or Barnhill Contracting Co. ("Contractor") has made a written application for a Progress Payment as indicated below. Supplier knowingly WAIVES and RELEASES any and all lien rights it has or may have for furnishing labor, materials, or rental equipment at the site of the Improvement as of the date of the application for the Progress Payment as indicated below.

Upon receipt of this Progress Payment by Contractor, Supplier acknowledges and agrees that Contractor has paid for all labor, materials, or rental equipment furnished by Supplier, directly or indirectly, pursuant to Supplier's contract with Contractor, or with any supplier and or subcontractor of Contractor, or with any supplier and/or subcontractor at any tier thereafter for furnishing labor, materials, or rental equipment at the Premises, which is the site of the Project described below.

For and in consideration of this Progress Payment and other valuable considerations, and for the purpose of inducing the making of this Progress Payment, Supplier hereby waives, releases, warrants and agrees, as follows:

1) WAIVER and RELEASE: Supplier hereby waives, releases and relinquishes any and all rights to any mechanics, laborers' and/or materialmen's liens (including both liens on funds and on real property), and any and all other rights (including, but not limited to, equitable liens, rights to obtain the issuance of stop notice, and rights to assert any claim with respect to any payment or surety bond) relating to the Project, or to funds paid or to be paid in connection with any work done to and/or Improvements made on or to the Premises. This WAIVER and RELEASE relates and applies only to labor, materials or rental equipment furnished to the Improvements by Supplier through the date of the application for this Progress Payment.
2) WARRANTIES: Supplier represents and warrants that:
   a) The person executing this Waiver and Release Upon Progress Payment has the right and authority to sign and execute this document on behalf of Supplier.
   b) Supplier has fully paid or within five (5) days of the date of this Progress Payment, shall fully pay:
      i) all persons who have performed or furnished labor or professional design or surveying services at the site of the Improvement; and
      ii) all persons who have furnished any materials or rental equipment, on the Premises or to the Project; and
      iii) all taxes, licenses, fees, assessments or any other payments required to be made by Supplier to any governmental authority having jurisdiction to assess same.
   c) Supplier has not signed or executed any security agreement or other document which affects title to any part of the Premises or to any material used in connection with Improvements to the Premises:
   d) Supplier has not asserted and shall not assert a lien on funds or on the Premises, and
   e) Supplier has not assigned and shall not assign to any person or entity any right or claim for payment regarding labor, materials, or rental equipment furnished on or to the Premises.
3) INDEMNITY: Supplier agrees to defend and indemnify the owner of the Premises which is the site of the Project described below ("Owner"), Contractor, and Contractor's supplier or subcontractor with whom Supplier has a contract for which this Progress Payment has been received, from and against any and all demands or claims for payment and losses (including reasonable attorney's fees) made by any person or entity who has furnished labor, materials, or rental equipment to Supplier for Improvements on the Premises, or made by any governmental authority for taxes, licenses, fees, assessments or other payments.

NOTICE: THIS IMPORTANT LEGAL DOCUMENT UNCONDITIONALLY WAIVES YOUR LIEN RIGHTS AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THESE RIGHTS. It is a crime (punishable by a fine not exceeding One Thousand and No/100 dollars ($1,000.00) or by imprisonment not to exceed two (2) years, or by both) to make any written statement relating to sums due or claimed to be due for labor, materials, or rental equipment furnished, at the site of Improvements to the Premises which is known to be false. N.C. General Statutes ' 44A-24.

Barnhill Contracting Co. Project Number 1102018 Name of Owner: New Hanover County Schools

County/State of Project: New Hanover / North Carolina Owner Project Number: _____

Progress Payment: _____ Amount $ _____ Date: _____

IN TESTIMONY WHEREOF, the Supplier has caused this Waiver and Release Upon Progress payment to be executed in its name by its _____ President (or General Partner), attested by its _____ Secretary, and its corporate seal to be hereto affixed (for Corporate Suppliers), by the authority of its Board of Directors (or Partners) first duly given, this _____ day of _____, 20 _____.

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

Notary Public: _____

My Commission Expires: _____

(Notary Seal)

_____
(Corporate Name, Individual or Partnership Name)

(Corp. Seal)
(If Applicable)

BY: _____

_____
(Print Name and Title)

ATTEST: _____
(Corp. Secretary)

ATTACHMENT F – CERTIFICATE OF STORED MATERIALS

TO: BARNHILL CONTRACTING COMPANY

The below listed materials, supplies and equipment (hereinafter defined as material) are stored and can be inspected with reasonable notification.

Stored Material Item-Description	Stored Location	Quantity	Invoice Value (Invoice Copy Attached)

(Append additional sheets as needed.)

Subcontractor's material handling costs $ _____

Total Costs (invoice value plus handling cost) $ _____

Upon receipt of payment (payment defined as invoiced cost plus material handling cost without overhead and profit) as petitioned by the Subcontractor's Application for Payment No. _____

Item 6, dated _____, the undersigned hereby certifies the following:

1. Full, clear and unencumbered title and ownership of the material is transferred, assigned and vested to: New Hanover County Schools (Name of Owner).

2. The material is to be held in trust for the benefit of New Hanover County Schools and for the exclusive use of the Trask Middle School (Project Name) until such time as the materials are incorporated into the work. The Subcontractor re-affirms his continued obligation to store and protect the material until completion of the work. All cost related to procuring, transporting, insuring and improving, repairing or leasing facilities for storage of the material, is the sole cost of the Subcontractor.

   As evidenced and surety of this obligation and for protection of the Owner's property, the Subcontractor will provide and maintain an "All Risks" insurance policy for the invoiced value of the material. Further, the Subcontractor agrees to be responsible and accountable for any and all damage to or destruction of the material, insurance coverage notwithstanding.

3. A current Certificate of Insurance coverage is attached or presently on file with Barnhill Contracting Co.

ATTEST: (Notary Public)

_____
SUBCONTRACTOR NAME

By: _____
Signature

_____
Title

ATTACHMENT H – SUPPLIER/SUBCONTRACTOR INFORMATION SCHEDULE

Submitted by: _____
(Subcontractor Company Name)

Project Name: Trask Middle School

Barnhill Contracting Co. Project No.: 1102018

The following is a complete listing of the subcontractors and suppliers to be used by the Subcontractor named above as sources for furnishing and/or installing materials or equipment, the total value of which for any one such sub or supplier is expected to be $10,000.00 or more in connection with work on the above named project:

Sub/Supplier Name and Address	Sub/Supplier Contact Person	Contact's Telephone Number	Estimated Total Dollars to be Paid	Item of Work or Material Furnished

The information shown above is complete, true and correct to the best of my knowledge and belief.

_____
Subcontractor Signature

_____
Printed Name

ATTACHMENT I – SALES TAX SUMMARY

State of North Carolina
County Sales and Use Tax Report
Summary Totals & Certification

Contractor/Subcontractor: _____

Project Name: Trask Middle School For Period Ending: _____

	Total for County of:	Total for County of:	Total for County of:	Total for County of:	Total for County of:	Total for County of:	Total for County of:	Total All Counties**	Total for State**
Contractor									
Subcontractor(s)*									
County Total									

* Attach Subcontractor(s) report(s)
** Must balance with detail sheet(s)

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

Subscribed and sworn before me this _____

day of _____, 20_____.

Notary Public: _____

My Commission Expires: _____

Printed Name: _____

_____
Signature of Preparer

_____
Printed Name of Preparer

Note: This Certified Statement May be Subject to audit.

ATTACHMENT I – SALES TAX DETAIL

Page _____ of _____

SALES TAX REPORT Project Name: Trask Middle School

General Contractor: Barnhill Contracting Co. Owner: New Hanover County Schools

Subcontractor: _____ Period: _____ To _____

Vendor	Address	Invoice #	Date	Net Amount	NC Tax Amount	County Tax Amt	County Name
Total							

_____, being duly sworn, certifies that the foregoing statement of sales taxes paid in connection with the referenced contract is true to the best of his or her knowledge and belief.

_____

Signature and Title)

_____

Printed Name

_____

Company Name and Address

Subscribed and sworn before me this _____

day of _____, 20_____.

Notary Public: _____

My Commission Expires: _____

Printed Name: _____

Attachment N
Barnhill Contracting Co.
Lower Tier Subcontractor/Supplier Conditional Release of Claim

TO: Barnhill Contracting Co.
FROM: _____
(Lower Tier Subcontractor or Supplier)
PROJECT: **Trask Middle School**
OWNER: **New Hanover County Schools**
LOCATION: **2900 N College Road, Wilmington, NC 28405** _____

The undersigned being duly sworn certifies that he/she is the _____ (Title) of _____ (Lower tier Subcontractor/Supplier), hereinafter referred to as the "Company", a party to a contract with _____ (First tier contracted with Barnhill Contracting Co.) on the above named project.

The undersigned makes this affidavit well knowing that Barnhill Contracting Co. relies upon the truth of this affidavit in making payment. Further, the undersigned makes this affidavit and certificate to induce Barnhill Contracting Co. to make payment for work performed and/or invoiced on this project for the period through _____ (Date) where the amount of $_____ is owed, and that upon the condition of receipt of said payment, the company fully releases all claims and waives all liens against the owner, its premises and property, Barnhill Contracting Co. and its surety, if any.

Previous payment(s) for work performed and/or supplied on this project have been received by the undersigned from the beginning of the work through _____ (Date) in the amount of $_____. Total contract and/or purchase order commitments the company is obligated to perform on this project, both paid and unpaid, are the total sum of $_____.

I do hereby certify that all persons, firms or corporations, without limitation, who have performed work, rendered services, provided labor, materials, equipment, supplies or any other items used by the company in connection with the project have been paid in full for same up to the current period of _____(Date) and that other than those exceptions listed, there is no entitlement by the company's employees, subcontractors, material suppliers, or service providers to a lien against the owner, its premises or property, or claim against Barnhill Contracting Co. or any funds owed to Barnhill Contracting Co. on account of the project.

I further certify that all of the foregoing work has been properly provided, and if applicable, installed in accordance with the contract documents governing the project, and in accordance with all authorities having jurisdiction over said project.

I further certify that all workers compensation, social security, unemployment insurance and other insurance, and all federal, state and local taxes or fees have been paid in full to date; and that a proper reserve has been set up for those taxes or premiums which have been incurred but are not yet due.

I further certify that the company is complying with all applicable federal, state and local laws with respect to the requirements of this project.

In full agreement conditioned only by the above, I affix my signature this ___day of _____, 20___.

By: _____, _____ (Signature, title)

Printed name: _____

I, _____, a notary public for_____ county, _____, do hereby

certify that _____ personally appeared before me and acknowledged the due execution of the

foregoing instrument. Witness my hand and official seal on this ____ day of _____, 20 ___.

_____ (Seal) _____ (Printed name)

My commission expires on _____.

MBE DOCUMENTATION FOR CONTRACT PAYMENTS

Prime Contractor: _____

Address & Phone: _____

Project Name: __Trask Middle School_____

Pay Application #: _____ Period: _____

The following is a list of payments to be made to minority business contractors on this project for the above-mentioned period.

Firm Name	* Indicate Type of Minority	Payment Amount this Period	Total Amount Paid to Date	Total Amount Committed

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

Date: _____ Approved/Certified By: _____

Name

_____

Title

_____

Signature

THIS DOCUMENT MUST BE SUBMITTED WITH EACH PAY REQUEST & FINAL PAYMENT

CHANGE PROPOSAL FORM

Project: Trask Middle School Renovations
Proposal #:
Contract:
Project #: 1102018
Contractor:
Contractor #: Bid Package No.

Description of change:

					SUBTOTALS
Materials	(Attach list with Qty, Item, Unit $, Unit mh, Total mh, OT mh, Total $)				
1	Total Direct Cost of Materials			$0.00	
2	Overhead & Profit on Item 1.			$0.00	
	(15% maximum, includes small tools & consumables)				
3	Sales Tax			$0.00	
4	Shipping & Transportation			$0.00	$0.00
Labor					
5	Total Manhours:	0 MH @	$0.00 /hr.	$0.00	
6	Overhead & Profit on Item 5.			$0.00	
	(15% maximum on straight labor cost, not premium portion)				
	(O & P includes supervisor's time)				
7	Payroll Taxes & Insurance	0.0%		$0.00	$0.00
Equipment	(Include quotes)				
8	Equipment			$0.00	
9	Overhead & Profit on Item 8.			$0.00	$0.00
	(6% maximum)				
Subcontractors	(Include quotes with material & equipment backup)				
10	Subcontractors			$0.00	
11	Overhead & Profit on Item 10.			$0.00	$0.00
	(6% maximum)				
				Subtotal of Proposal	$0.00
12	Bonds (% of subtotal of proposal)		0.0%		$0.00
				TOTAL OF CHANGE PROPOSAL	$0.00

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

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

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

Approval Recommended by Design Consultant: _____ **Date:** _____

Owner's Representative Approval: _____ **Date:** _____

CHANGE PROPOSAL FORM
Time and Material / Unit Price Estimate

Project: Trask Middle School Renovations **Proposal #:**

Contract: **Project #:** 1102018

Contractor: **Contractor #:** Bid Package No.

Description of change:

	SUBTOTALS
Materials & Labor	
Estimated cost of labor & materials including shipping, overtime, payroll taxes and insurance, and overhead and profit.	
Maintain accurate records for billing purposes.	
	$0.00
Unit Price Work	
Estimated quantity of units required less allowance units not used, times the established unit cost.	
Maintain accurate records for billing purposes. Third party records may be required.	
	$0.00
Equipment Rental	
Estimated cost of equipment rental including shipping, taxes and overhead and profit.	
Maintain accurate records for billing purposes.	**$0.00**
Subcontractors	
Estimated cost of subcontracts including all subcontractor expenses.	
Maintain accurate records for billing purposes.	
	$0.00
Subtotal of Proposal	**$0.00**
Bonds (% of subtotal of proposal) **0.0%**	**$0.00**
*** TOTAL NOT TO EXCEED CHANGE PROPOSAL ESTIMATE**	**$0.00**

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

The Contractor agrees to perform the work outlined in this change proposal for an amount that shall not exceed the amount stated above and in accordance with the Contract documents if the work is authorized by the Owner. If the price to perform the work is expected to exceed the above stated amount, a new change proposal form for the additional work is required.

* Actual amount paid will be based on actual documented expenses.

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

Approval Recommended by Design Consultant: _____ **Date:** _____

Owner's Representative Approval: _____ **Date:** _____

FORM OF BID BOND

KNOW ALL MEN BY THESE PRESENTS THAT _____ _____ as principal, and _____, as surety, who is duly licensed to act as surety in North Carolina, are held and firmly bound unto the State of North Carolina* through __Barnhill Contracting Company_____ as obligee, in the penal sum of 5% of Amount of Bid DOLLARS, lawful money of the United States of America, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Signed, sealed and dated this ____ day of _____ 20__

WHEREAS, the said principal is herewith submitting proposal for and the principal desires to file this bid bond in lieu of making the cash deposit as required by G.S. 143-129.

NOW, THEREFORE, THE CONDITION OF THE ABOVE OBLIGATION is such, that if the principal shall be awarded the contract for which the bid is submitted and shall execute the contract and give bond for the faithful performance thereof within ten days after the award of same to the principal, then this obligation shall be null and void; but if the principal fails to so execute such contract and give performance bond as required by G.S. 143-129, the surety shall, upon demand, forthwith pay to the obligee the amount set forth in the first paragraph hereof. Provided further, that the bid may be withdrawn as provided by G.S. 143-129.1

_____(SEAL)

_____(SEAL)

_____(SEAL)

_____(SEAL)

_____(SEAL)

Form OC-10

SECTION 308 FORM OF PAYMENT BOND

Date of Contract: _____

Date of Execution: _____

Name of Principal: _____

(Contractor)

_____

Name of Surety: _____

_____

Name of Contracting Body: _____

_____

Amount of Bond: _____

Project: _____

_____

KNOW ALL MEN BY THESE PRESENTS, that we, the principal and surety above named, are held and firmly bound unto the above named contracting body, hereinafter called the contracting body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the contracting body identified as shown above and hereto attached:

NOW, THEREFORE, if the principal shall promptly make payment to all persons supplying labor/material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Executed in _____ counterparts.

Witness:

_____
(Proprietorship or Partnership)

Attest: (Corporation)

By: _____

Title: _____
(Corp. Sec. or Asst. Sec. only)

_____
Contractor: (Trade or Corporate Name)

By: _____

Title: _____
(Owner, Partner, or Corp. Pres. or Vice Pres. only)

(Corporate Seal)

_____
(Surety Company)

Witness:

_____

By: _____

Title: _____
(Attorney in Fact)

Countersigned:

_____

(Surety Corporate Seal)

_____
(N.C. Licensed Resident Agent)

_____

_____
Name and Address-Surety Agency

_____

_____
Surety Company Name and N.C. Regional or Branch Office Address

FORM OF PERFORMANCE BOND

Date of Contract: _____

Date of Execution: _____

Name of Principal: _____
(Contractor)

_____

Name of Surety: _____

_____

Name of Contracting Body: _____

_____

Amount of Bond: _____

Project: _____

_____

KNOW ALL MEN BY THESE PRESENTS, that we, the principal and surety above named, are held and firmly bound unto the above named contracting body, hereinafter called the contracting body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind, ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the contracting body, identified as shown above and hereto attached:

NOW, THEREFORE, if the principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the contracting body, with or without notice to the surety, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Executed in _____ counterparts.

Witness:

_____
(Proprietorship or Partnership)

Attest: (Corporation)

By: _____

Title: _____
(Corp. Sec. or Asst. Sec. only)

_____
Contractor: (Trade or Corporate Name)

By: _____

Title: _____
(Owner, Partner, or Corp. Pres. or Vice Pres. only)

(Corporate Seal)

_____
(Surety Company)

Witness:

_____

By: _____

Title: _____
(Attorney in Fact)

Countersigned:

_____

(Surety Corporate Seal)

_____
(N.C. Licensed Resident Agent)

_____

_____
Name and Address-Surety Agency

_____

_____
Surety Company Name and N.C. Regional or Branch Office Address

APPENDIX "E"

Trask Middle School Renovations
MWBE/SMWOB DOCUMENTATION FOR
CONTRACT PAYMENTS

Subcontractor Name: _____

Address & Phone: _____

Project Name: **Trask Middle School Renovations**

Pay Application #: _____ Period: From: _____To:_____

The following is a list of payments to be made to minority business contractors on this project for the above-mentioned period.

Firm Name	***Minority Category**	**Payment Amount this Period**	**Total Amount Paid to Date**	**Total Amount Committed**

*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**AI**), American Indian (**AI**), White Female (**CF**)

Date: _____ Approved/Certified By: _____
Name

_____
Title

_____
Signature

****THIS DOCUMENT MUST BE SUBMITTED WITH EACH PAY REQUEST & FINAL PAYMENT****

IMPORTANT! PLEASE READ THIS FIRST!

BID FORMS ATTACHED

BP 100 – General Trades

The attached Bid Forms have been prepared specifically for your firm for the Bid Packages that you requested. If you are bidding more than one package, each Bid Package must be bid on a separate form.

Do not write anything on the form except where a blank space is provided. **All of the blanks must be filled in.**

Hand Deliver Bid Forms to the following Location:
6410 Carolina Beach Road
Wilmington, NC, 28412
Delivery (Before 9:00AM) on April 25, 2019

If you elect to Mail or Overnight Bid forms send to:
Barnhill Contracting Company
272 North Front Street, Suite 420
Wilmington, NC, 28401
Delivery (Before 12:00PM) on day prior to bid

DO NOT MAIL BID FORMS DIRECTLY TO NEW HANOVER COUNTY SCHOOLS

The State of North Carolina will not allow us to accept or open bids that arrive late.

If you lose your Bid Forms, contact Barnhill Contracting Company immediately, and we will replace them for you.

It is important to look these forms over carefully as soon as you receive them. Make sure you have the correct forms. **If you are not sure how to fill out any part of the forms,** contact Barnhill Contracting Company immediately, and we will assist you in any way we can.

DOCUMENTS TO BE INCLUDED IN BID

SAMPLE

The following documents MUST BE INCLUDED in the bid proposal package, and MUST BE FULLY COMPLETED AND EXECUTED at the time of the submission of the bid.

1. Bid Form – Including Base Bid, Allowances, Unit Prices, and Alternate Pricing

   Each and every blank must be filled in

2. Acknowledgement of receipt of addenda

3. Certificate of non-collusion

4. Identification of Minority Business Participation

5. State of North Carolina Affidavit A – Listing of the Good Faith Effort

6. State of North Carolina Affidavit B – Intent to Perform Contract with Own Workforce (if you are a HUB contractor).

7. Bid Bond Form or Cashier's Check in the amount of 5% of Bid Proposal for packages that meet or exceed $300,000.00.

DOCUMENTS TO BE SUBMITTED WITHIN 72 HRS OF BID

The following document are to be prepared and submitted with supporting documentation within 72 hours of the bid time – if you are the apparent low bidder.

1. State of North Carolina Affidavit C – Portion of the Work to be Performed by Minority Firms (if you are not submitting Affidavit B above)

2. State of North Carolina Affidavit D – Good Faith Effort

3. List of all tiered subcontractors that is planned to perform work or provide material for this project.

SAMPLE

BID OPENING LOCATION AND TIME

Date: April 25, 2019
TIME: 9:00AM

LOCATION: New Hanover County Board of Education Building, 6410 Carolina Beach Road, Wilmington, NC, 28412
Large Conference Room 101

FORM OF PROPOSAL

Project: **Trask Middle School**
New Hanover County Public School System
Wilmington, NC

To: **New Hanover County Public School System**
Wilmington, NC
c/o Barnhill Contracting Company – Construction Manager

This BID PACKAGE: *BP100 General Trades*

BIDDER: _____

NC LICENSE #: _____

DATE **April 25, 2019**

BID TIME: **9:00AM**

The undersigned, as bidder, hereby declares that the only person or persons interested in this proposal as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this proposal or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud. The bidder further declares that he has examined the site of the work and the contract documents relative thereto, and has read all special provisions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed.

The Bidder proposes and agrees if this proposal is accepted to contract with **Barnhill Contracting Company** in the form of contract specified in the Project Bid Manual, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the construction of:

Bid Package – BP100 General Trades

in full in complete accordance with the plans, specifications and contract documents, within the overall project time – refer to E.A. Laney High School Bid Default Schedule for Milestones, to the full and entire satisfaction of the New Hanover County Public School System and Barnhill Contracting Company with a definite understanding that no money will be allowed for extra work except as set forth in the Project Bid Manual and the Contract Documents, for the sum of:

BID PACKAGE: 100 General Trades

Trask Middle School BASE BID:

_____ Dollars ($) _____

(Write the Base Bid Amount in Words)

SAMPLE

ALLOWANCES:

1. Allowance as may be contained in specific Bid Package Scope(s) shall be included as a part of the total lump sum Bid Proposal amount. **An allowance shall include all costs including overhead, profit (mark-up) and exclude performance and payment bond costs.** The allowance is available for application at the discretion of the Construction Manager and the unused portion credited against the Contract amount. All Contract allowances will be identified in the Schedule of Values as an individual line item.
2. Utilization of any allowance shall be documented by **daily** documentation as directed by the Construction Manager.

ALLOWANCES REQUIRED IN THIS BID PACKAGE

Allowance #01 – Unit Price Allowance No. 1: Provide additional 1000 man hours of labor time for discretionary use by Construction Manager: **1000-HR.**

1000 man hours @ $_____/HR = $_____.
(Include in Base Bid)

UNIT PRICES:

1. Unit Prices as listed may be utilized by the Construction Manager to make contract cost adjustments for changes in the Work. Unit prices for completed in place Work shall include cost for labor, materials, equipment, insurances, taxes, bond premium, overhead and profit of fifteen percent (15%) and other related incidentals and remain firm and in effect for the duration of the contract. Solicited unit prices for deleted Work shall be calculated at not less than ten percent (15%) for overhead and profit.

Unit Price #01 Rate per laborer hour regular time = $_____.

Unit Price #02 Rate per laborer hour overtime = $_____.

Unit Price #03 Rate per carpenter hour regular time = $_____.

Unit Price #04 Rate per carpenter hour overtime = $_____.

ALTERNATES:

1. Alternate Prices shall include all cost associated with the changes, omissions, additions or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any Alternate will not be allowed.
2. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Bid Manual, Addendum(s), and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives.
3. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

SAMPLE

ALTERNATES REQUIRED IN THIS BID PACKAGE

Alternate No. G-2: All work associated with renovations to the athletic support spaces. State an alternate price to remove and reinstall lockers in the designated area.

ADD / DEDUCT _____ Dollars $_____
(Circle One) (Write the Amount in Words)

SAMPLE

MINORITY BUSINESS PARTICIPATION REQUIREMENTS;

Provide with the bid - Under GS 143-128.2(c) the undersigned bidder shall identify **on its bid** (Identity of Minority Business Participation Form) the minority businesses that it will use on the project with the total dollar value of the bids that will be performed by the minority businesses. **Also** list the good faith efforts (Affidavit **A**) made to solicit minority participation in the bid effort.

NOTE: A contractor that performs all of the work with its own workforce may submit an Affidavit (**B)** to that effect in lieu of the participation form and Affidavit (**A)** required above.

After the bid opening - The Owner will consider all bids and alternates and determine the lowest responsible, responsive bidder. Upon notification of being the apparent low bidder, the bidder shall then file within 72 hours of the notification of being the apparent lowest bidder, the following:

An Affidavit (**C**) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is **equal to or more than the 10% goal** established. This affidavit shall give rise to the presumption that the bidder has made the required good faith effort and Affidavit **D** is not necessary;

OR

If less than the 10% goal, Affidavit (**D**) of its good faith effort to meet the goal shall be provided. The document must include evidence of all good faith efforts that were implemented, including any advertisements, solicitations and other specific actions demonstrating recruitment and selection of minority businesses for participation in the contract.

Note: Bidders must submit **with their bid** the Identification of *Minority Business Participation* list and *Affidavit A* **or** *Affidavit B* as applicable. Failure to file a required affidavit or documentation with the bid or after being notified apparent low bidder may be grounds for rejection of the bid.

SAMPLE

PROPOSAL SIGNATURE PAGE

The bidder further proposes and agrees to commence work under this contract on a date to be specified by the Construction Manager at Risk, and shall pursue the scope of work included in his contract in accordance with the schedule prepared by the Construction Manager at Risk.

Respectfully submitted this,

_____ Day of _____, 2016
(Write the Date of the Month in Words) (Write the Name of the Current Month)

WITNESS:

_____
(Witness Signs Here if you are a Proprietorship or Partnership)

By: _____
(Printed Name of Person Signing Bid)

_____
(Signature)

ADDRESS:

_____

_____

_____

TITLE: _____
(Owner, Partner, President or Vice President)

LICENSE # _____

FEDERAL ID # _____

ATTEST:

By: _____

TITLE: _____
(Corporate Secretary or Asst. Secretary only)

(CORPORATE SEAL)

SAMPLE

Addendum received and used in computing bid. The Bid Price(s) stated in this Bid Proposal **(circle one)** INCLUDES DOES NOT INCLUDE all Addenda. In space provided below **write** the addendum number(s) received:

List of Addenda Received by Number: _____

FORM OF NON-COLLUSION & CONTRACT AFFIDAVIT

STATE OF: NORTH CAROLINA

COUNTY OF: _____

PROJECT NAME: Trask Middle School
New Hanover County Public School System
Wilmington, NC

CONTRACTOR _____, being first duly sworn, deposes

and says that he is_____ (sole owner, a partner, president, secretary, etc.) of

_____, the party making the forgoing bid;

1) That such bid is not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization or corporation;
2) That the proposal is made without contact or collusion, directly or indirectly, with any other person, partnership, company, association, organization or corporation making a bid proposal;
3) That said bidder has not directly or indirectly induced or solicited any other bidder to submit a false or sham bid;
4) That said bidder has not directly or indirectly induced, colluded, or conspired, convinced or agreed with any bidder or anyone else to refrain from bidding;
5) That said bidder has not in any manner, directly or indirectly, sought by agreement, communication or conference with anyone to fix the Bid Price of said bidder or any other bidder, or to fix any overhead, profit or cost element of such Bid Price, or of that of any other bidder, or to secure any advantage against the New Hanover County Public School System or any party interested in the proposed Contract;
6) That the bidder declares that he/she has examined the site of the work and the contract document relative to thereto, and has read all special provisions furnished prior to the opening of bids; that he /she has satisfied themselves relative to the work to be performed
7) That the bidder proposes and agrees if this proposal is accepted to contract with Barnhill Contracting Company on behalf of the New Hanover County Public School System in the form of contract specified and to furnish all necessary material, equipment machinery, tools, apparatus, means of transportation and labor necessary to complete the construction of E.A. Laney High School as reflected in the scope of work as listed on the attached bid form.
8) And that in full satisfaction of the New Hanover County Public School System, Sawyer Sherwood & Associate Architecture and Barnhill Contracting Company with a definite understanding that no money will be allowed for extra work except as set forth in the General Conditions, the Supplementary/Supplemental General Conditions and the Contract Documents.

I hereby submit that all statements contained above in all respects are made in good faith and are true as written.

Signed: _____

Title: _____

State of ____, County of _____

Sworn to and subscribed before me,

This the _____ day of _____, 20____

_____
Notary Public

Seal

My Commission Expires: _____

SAMPLE

Appendix F

Sexual Offender Registry Check Certification Form

PLEASE SUBMIT THIS FORM TO YOUR OWNER'S REPRESENTATIVE

Project Name: _____Trask Middle School Renovations____
Contract: BP No. & Name _____

Check the appropriate box to indicate the type of check:

Initial Supplemental Annual

I, _____ (insert name), _____ (insert title) of _____ (insert company name) hereby certify that I have performed all of the required sexual offender registry checks required under this Agreement for all contractual personnel (employees, agents, ownership personnel, or contractors) who may be used to deliver goods or provide services under this Agreement, including the North Carolina Sex Offender and Public Protection Registration Program, the North Carolina Sexually Violent Predator Registration Program, and the National Sex Offender Registry. I further certify that none of the individuals listed below appears on any of the above-named registries and that I will not assign any individual to deliver goods or perform services under this Agreement if said individual appears on any of the sex offender registries. I agree to maintain all records and documents associated with these registry checks, and that I will provide such records and documents to the school system upon request. I specifically acknowledge that the school system retains the right to audit these records to ensure compliance with this section at any time in the school system's sole discretion. I acknowledge that I am required to perform these checks and provide this certification form before any work is performed under the Agreement (initial check), any time additional contractual personnel may perform work under the Agreement (supplemental check), and at each anniversary date of the Agreement (annual check).

Contractual Personnel Names	**Job Title**
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____

I attest that the forgoing information is true and accurate to the best of my knowledge.

_____ (print name)

_____ (signature / date)

BARNHILL CONTRACTING COMPANY

Submittal Cover Form

Project: Trask Middle School Renovations

Date of Submittal: _____

Project #: _____

Architect (name & address): Sawyer, Sherwood and Associates – 124 Market St, Wilmington, NC 28401

Contractor (name & address): CM@ Risk (Barnhill Contracting Company)

272 North Front St, Suite 420 Wilmington NC 28401

Subcontractor (name & address): _____

_____

Supplier (name & address): _____

_____

Manufacturer (name & address): _____

_____

SPECIFICATION SECTION	SPECIFICATION PARAGRAPH	DESCRIPTION OF ITEM SUBMITTED

We warrant the following:

a. We have personally investigated the proposed product and determined that it is equal in all respects to that specified and/or performance specification requirements.
b. We will provide the specified guarantee for this product.
c. We will coordinate installation of this product into the work, making such changes as may be required for the work to be complete in all aspects.
d. We have clearly indicated by marking as "Non-Complying Feature" each and every requirement of the specifications that this product does not meet.
e. And, we waive all claims for additional costs related to this product which subsequently become apparent.

Submitted by: _____
(Your Signature)

Barnhill Contracting Company's Review	Architect/Engineer's Review

CMAA
Construction Management Association of America

THE CONSTRUCTION MANAGEMENT ASSOCIATION OF AMERICA, INC.

CMAA Document CMAR-1 (2004 Edition)

Standard Form of Agreement Between
Owner and Construction Manager

(Construction Manager At-Risk)

~~This document is to~~ may be used in connection with ~~CMAA Standard Form of Contract Between Construction Manager and Contractor (CMAA Document CMAR-2), CMAA General Conditions of the Construction Contract (CMAA Document CMAR-3), CMAA Standard Form of Contract Between Owner and Designer (CMAA Document CMAR-4), all being 2004 Editions.~~

CONSULTATION WITH AN ATTORNEY IS RECOMMENDED WHENEVER THIS DOCUMENT IS USED.

AGREEMENT
Made this **Sixth** day of **March** in the year of Two Thousand and **Eighteen**.

BETWEEN The Owner:
New Hanover County by and through its authorized agent,
New Hanover County Board of Education
6410 Carolina Beach Road
Wilmington NC 28412

And the Construction Manager (hereinafter referred to as the "CM"):
Barnhill Contracting Company
P.O. Box 31765
Raleigh, NC 27622

For services in connection with the Project known as:
Trask Middle School Renovations
2900 North College Road
Wilmington, NC 28405

As further described in Article 2:

NHCS PROJECT #900-9009 / NHCS CONTRACT #900-9009-2

Project Architect ("Designer"):

Sawyer Sherwood & Associate, P.C.
124 Market Street
Wilmington NC 28401

The Owner and CM, in consideration of their mutual covenants herein, agree as set forth below:

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E-VERIFY FORM
NEW HANOVER COUNTY APPLICATION FOR WAIVER OF TIPPING FEES

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ARTICLE 1
RELATIONSHIP OF THE PARTIES

1.1 Owner and Construction Manager
The CM and the Owner shall perform as stated in this Agreement and each accepts the relationship between them that is established by this Agreement.

1.1.1 Standard of Care
The CM covenants with the Owner to furnish its skill and judgment with due care in accordance with applicable federal, state, and local laws and regulations that are in effect on the date of this Agreement first written above.

1.2 Owner and Designer
The Owner, ~~in consultation with the CM,~~ shall contract separately with one or more Designers to provide architectural and engineering design for the Project. The Project is defined in Article 2 of this Agreement. THE DESIGNER'S SERVICES SHALL BE AS STATED IN THIS AGREEMENT AND AS DEFINED IN THE FORM AGREEMENT BETWEEN THE OWNER AND DESIGNER ATTACHED AS APPENDIX D.

1.3 Owner and Contractors
The Owner will require the CM to contract directly with such Contractors as may be necessary for construction or supply of the Project. All such contracts shall be issued consistent with the applicable provisions of this Agreement AND N.C. GEN. STAT. § 143-128 TO -132.

1.4 Relationship of the CM to the Designer and Other Project Participants
In providing construction management services described in this Agreement, the CM shall ~~endeavor to maintain~~ a working relationship with the Designer. The Designer is solely responsible for the Project design and shall perform in accordance with the Designer agreement with the Owner and nothing in this Agreement shall be construed to mean that the CM is responsible for the design of the Project or that the CM assumes any of the contractual or customary duties of the Designer or any other persons or parties not specified by this Agreement.

ARTICLE 2
PROJECT DEFINITION

The term "Project" when used in the Agreement shall mean the total construction of which the Work may be a whole or part of the Project. The term "Work" required for the "Project" used in this Agreement shall mean the various parts of total construction to be performed under this Agreement.

The Project name and locations are as follows:
Trask Middle School Renovations
2900 North College Road
Wilmington, NC 28405

The Project is intended for use as:

Middle School

ARTICLE 3
CONSTRUCTION MANAGER'S BASIC SERVICES

3.1 CM Basic Services
The CM shall perform the Basic Services described herein. It is not required that the Basic Services be performed in the sequence in which they are described.

3.2 ~~Pre-~~Design Phase – PROJECT MANAGEMENT

3.2.1 Project Management

3.2.1.1 Construction Management Plan
The CM shall prepare a Construction Management Plan for the Project WITHIN THE TIME MUTUALLY ESTABLISHED BY THE OWNER AND CM and shall make recommendations for revisions to the plan throughout the duration of the Project, as may be appropriate. In preparing the Construction Management Plan, the CM shall consider the Owner's schedule, budget, and design requirements for the Project. The CM shall then develop various alternatives for the sequencing and management of the Project and shall make recommendations to the Owner. The Construction Management Plan shall also include a description of the various bid packages recommended for the Project. The Construction Management Plan shall be presented to the Owner for acceptance. THE CM SHALL DEVELOP A MASTER SCHEDULE FOR THE PROJECT. THE CM SHALL DETERMINE THE APPROPRIATE BID PACKAGES BASED ON THE AVAILABLE RESOURCES. THE CM SHALL FAMILIARIZE ITSELF WITH ALL AVAILABLE PROJECT FUNDING AND WORK WITH THE OWNER AND DESIGNER TO MAXIMIZE THE SCOPE AND QUALITY OF THE PROJECT BASED UPON THE AVAILABLE FUNDS. THE CM SHALL MAKE RECOMMENDATIONS REGARDING COMMUNICATION AMONG THE PARTIES IN AN EFFORT TO ENSURE THE PROMPT AND PROPER FLOW OF PROJECT INFORMATION. THE CM SHALL OUTLINE ITS PLAN FOR MINORITY BUSINESS ENTERPRISE PARTICIPATION GOALS REQUIRED BY STATE LAW AND THE OWNER, INCLUDING REPORTING ALL INFORMATION REQUIRED BY STATE LAW ON BEHALF OF THE OWNER TO THE North Carolina DEPARTMENT OF ADMINISTRATION, OFFICE OF HISTORICALLY UNDERUTILIZED BUSINESSES. THE CM SHALL INCLUDE A PROJECT SAFETY PLAN COVERING ALL CRITICAL AREAS OF THE PROJECT.

~~3.2.1.2 Designer Selection~~
~~The CM may assist the Owner in the selection of a Designer by developing lists of potential firms, developing criteria for selection, preparing and transmitting the requests for proposal, assisting in reviewing written proposals, assisting in conducting interviews, evaluating candidates and making recommendations.~~

~~3.2.1.3 Designer Contract Preparation~~

~~The CM may assist the Owner in the preparation and review of the Agreement between the Owner and the Designer.~~

~~3.2.1.4 Designer Orientation~~
~~The CM shall conduct or assist the Owner in conducting a Designer orientation session during which the Designer shall receive information regarding the Project scope, schedule, budget, and administrative requirements.~~

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3.2.2 Time Management

3.2.2.1 Master Schedule
In accordance with the Construction Management Plan, the CM shall prepare a Master Schedule for the Project IN ACCORDANCE WITH THE DEADLINES ESTABLISHED BY THE OWNER. The Master Schedule shall specify the proposed start and finish dates for each major project activity. The CM shall submit the Master Schedule to the Owner for acceptance.

3.2.2.2 Design Phase Milestone Schedule
After the Owner accepts the Master Schedule the CM shall prepare a Milestone Schedule for the Design Phase. The Design Phase Milestone Schedule may be used in the request for proposals and contract for the Designer and shall be a method for judging progress during the Design Phase. THE CM SHALL TRACK THE DESIGNER'S PROGRESS DURING THE DESIGN PHASE AND ALERT THE OWNER OF ANY DELAYS IN THE DESIGNER'S TIMELY COMPLETION OF ITS SERVICES.

3.2.3 Cost Management

3.2.3.1 Construction Market Survey
The CM shall conduct a Construction Market Survey to provide current information regarding the general availability of local construction services, labor, materials and equipment cost and other economic factors related to the Project.

3.2.3.2 Project and Construction Budget
Based on the Construction Management Plan and the Construction Market Survey, the CM shall prepare a Project and Construction Budget based on separate divisions of the Work required for the Project and shall identify contingencies for design and construction. The CM shall submit the Project and Construction Budget to the Owner for acceptance. THE CM SHALL MAKE RECOMMENDATIONS TO THE OWNER AND DESIGNER REGARDING WHETHER THE OWNER SHOULD CONDUCT ANY ADDITIONAL GEOTECHNICAL, ENVIRONMENTAL OR OTHER INSPECTIONS OF THE PROJECT SITE REASONABLY NECESSARY FOR THE CM TO ESTIMATE THE COST OF THE WORK AND MINIMIZE CHANGE ORDERS DUE TO UNFORSEEN CONDITIONS. IF THE PROJECT INVOLVES RENOVATION WORK, THE CM SHALL PERFORM INSPECTIONS OF THE EXISTING BUILDING AND PROJECT CONDITIONS AND PERFORM ANY DESTRUCTIVE TESTING REASONABLY NECESSARY FOR THE DESIGNER TO PREPARE A COMPLETE AND ACCURATE SET OF CONSTRUCTION DOCUMENTS AND ALLOWING THE CM TO ESTIMATE THE COST OF THE WORK IN ORDER TO MINIMIZE CHANGE ORDERS DUE TO UNFORESEEN CONDITIONS. THE COST OF ANY DESTRUCTIVE TESTING SHALL BE BILLED AS A REIMBURSABLE AND SHALL NOT BE INCLUDED IN THE CM'S FEE FOR BASIC SERVICES. The Project and Construction Budget shall be revised as directed by the Owner.

3.2.3.3 Preliminary Estimate and Budget Analysis
The CM shall analyze and report to the Owner the cost of various design and construction alternatives, including CM's assumptions in preparing its analysis, a variance analysis between budget and preliminary estimate, and recommendations for any adjustments to the budget. As a part of the cost analysis, the CM shall consider costs relating to efficiency, usable life, maintenance, energy, and operation.

~~3.2.4 Management Information System (MIS)~~

~~3.2.4.1 Establishing the Project MIS~~
~~The CM shall develop a MIS USE ORACLE'S CONTRACT MANAGEMENT (FORMERLY KNOWN AS EXPEDITION) AS DIRECTED BY THE OWNER to establish communication between the Owner, CM, Designer, and other parties on the Project. In developing the MIS, IN USING EXPEDITION, the CM shall interview the Owner's key personnel and others to determine the type of information for reporting, the reporting format, and the desired frequency for distribution of the various reports.~~

~~3.2.4.2 Design Phase Procedures~~
~~As part of the MIS, the CM shall establish procedures for reporting, communication, and administration during the Design Phase.~~

3.3 Design Phase – DESIGN SUPPORT

3.3.1 Project Management

3.3.1.1 Revisions to the Construction Management Plan
During the Design Phase, the CM shall make the recommendations to the Owner regarding revisions to the Construction Management Plan. Revisions approved by the Owner shall be incorporated into the Construction Management Plan.

3.3.1.2 Project Conference
At the start of the Design Phase, the CM shall conduct a project conference attended by the Designer, the Owner and others as necessary. During the Project Conference, the CM shall review the Construction Management Plan, the Master Schedule, the Design Phase Milestone Schedule, the Project and Construction Budget, and the MIS. THE CM SHALL BE RESPONSIBLE FOR TRACKING THE PROGRESS OF THE DESIGN IN RELATION TO THE DESIGN PHASE MILESTONE SCHEDULE AND SHALL PROMPTLY NOTIFY OWNER OF ANY DELAY. THE CM SHALL MAKE RECOMMENDATIONS TO THE OWNER, WITH A COPY TO THE DESIGNER, REGARDING STRATEGIES FOR OVERCOMING ANY DELAY IN THE DESIGN OF THE PROJECT.

3.3.1.3 Design Phase Information
The CM shall monitor the Designer's compliance with the Construction Management Plan and the MIS and the CM shall coordinate and expedite the flow of information between the Owner, Designer, and others as necessary.

3.3.1.4 Progress Meetings
The CM shall conduct periodic progress meetings attended by the Owner, Designer and others as necessary. Such meetings shall serve as a forum for the exchange of information concerning the Project and the review of design progress. The CM shall prepare and distribute minutes of these meetings to the Owner, Designer and others. DURING THE PERIODIC PROGRESS MEETINGS THE CM SHALL UPDATE THE OWNER AND DESIGNER REGARDING THE ESTIMATED COST OF THE DESIGN AND MAKE RECOMMENDATIONS TO THE OWNER AND DESIGNER REGARDING CONSTRUCTIBILITY, CONSTRUCTION COST, SEQUENCE OF CONSTRUCTION, CONSTRUCTION DURATION, POSSIBLE MEANS AND METHODS OF CONSTRUCTION, TIME FOR CONSTRUCTION, AND ANY OTHER INFORMATION REASONABLY NECESSARY TO ASSIST

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THE DESIGNER WITH COST, BUDGET AND SCHEDULE REQUIREMENTS.

3.3.1.5 Review of Design Documents
The CM shall review the design documents AND ANY ADDENDA OR OTHER INFORMATION FROM THE DESIGNER for clarity, consistency, constructability and coordination among the Contractors. IF THE PROJECT IS A PROTOTYPE THAT HAS BEEN PREVIOUSLY CONSTRUCTED, THE CM SHALL VERIFY THAT ALL APPLICABLE CHANGE ORDERS FROM PREVIOUS PROJECTS HAVE BEEN INCORPORATED INTO THE BIDDING DOCUMENTS. The results of the review shall be provided in writing as notations on the documents. The CM is not responsible for providing, nor does the CM control, the Project design and contents of the design documents. By performing the reviews described herein, the CM is not acting in a manner so as to assume responsibility or liability, in whole or in part, for all or any part of the Project design and design documents. The CM's actions in reviewing the Project design and design documents and in making recommendations as provided herein are ~~only advisory to the Owner~~ FOR THE USE OF THE OWNER AND DESIGNER.

3.3.1.6 Design Recommendations
The CM shall make recommendations to the Owner and Designer with respect to constructability, construction cost, sequence of construction, construction duration, possible means and methods of construction, time for construction, and separation of the Project contracts for various categories of Work. In addition, the CM shall give to the Designer all data of which it or the Owner is aware concerning patents or copyrights for inclusion in Contract Documents.

3.3.1.6.1
ON RENOVATION PROJECTS, THE CM SHALL:
.1 CONDUCT THOROUGH EVALUATION OF EXISTING CONDITIONS OF BUILDING(S), ALL BUILDING SYSTEMS, SITE, AND SITE INFRASTRUCTURE;
.2 CONDUCT DESTRUCTIVE AND NONDESTRUCTIVE TESTING AS NECESSARY TO THOROUGHLY EVALUATE EXISTING CONDITIONS OF THE BUILDING(S), BUILDING SYSTEMS, SITE, AND SITE INFRASTRUCTURE (ALL TESTING, WHETHER DESTRUCTIVE OR NONDESTRUCTIVE, IS TO BE APPROVED IN ADVANCE BY THE
OWNER AND SHALL BE COORDINATED TO OCCUR AT A TIME THAT WILL REASONABLY ALLOW THE INFORMATION TO BE USED BY THE DESIGNER IN THE IN THE PREPARATION OF THE CONTRACT DOCUMENTS);
.3 REPORT TO OWNER AND DESIGNER DURING DESIGN PHASE REGARDING FINDINGS OF EVALUATION OF EXISTING BUILDING(S), BUILDING SYSTEMS, SITE, AND SITE INFRASTRUCTURE AND MAKE RECOMMENDATIONS TO THE OWNER AND DESIGNER THAT WILL ASSIST WITH ESTABLISHING COST, BUDGET, AND SCHEDULE REQUIREMENTS;
.4 WORK WITH OWNER AND DESIGNER DURING DESIGN PHASE TO CREATE PHASING PLANS THAT ALLOW THE WORK TO BE CONDUCTED IN THE MOST EXPEDIENT MANNER WHILE TAKING INTO ACCOUNT BOTH COST AND TIME;
.5 DEVELOP A PLAN TO ADDRESS THE SAFETY AND SECURITY OF ALL STUDENTS, STAFF, VISITORS THAT WILL BE ON A SITE THAT IS BEING USED AS A SCHOOL DURING CONSTRUCTION, INCLUDING A PLAN THAT MINIMIZES NOISE LEVELS THAT WOULD BE DISRUPTIVE TO THE EDUCATIONAL ENVIRONMENT WITHOUT THE PRIOR APPROVAL OF THE OWNER.

3.3.1.7 Owner Design Reviews
The CM MAY expedite the Owner's design reviews by compiling and conveying the Owner's comments to the Designer.

3.3.1.8 Approvals by Regulatory Agencies
The CM shall MONITOR ~~coordinate~~ transmittal of documents to regulatory agencies for review and shall advise of potential problems in completing such reviews OF WHICH THE CM IS AWARE.

3.3.1.9 General Conditions
The General Conditions for use in the contracts between the CM and the Contractors for construction OF the Project shall be ~~CMAA Document CMAR-3~~ DEVELOPED BY THE CM. Separate General Conditions for materials and equipment procurement shall be prepared by the CM to meet the specific requirements of the Project AND ALL OF THE REQUIREMENTS OF THIS AGREEMENT.
IN INTERPRETING THE REQUIREMENTS OF THIS AGREEMENT, ANYTHING SHOWN ON THE DESIGNER'S DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS OR MENTIONED IN THE SPECIFICATIONS AND NOT SHOWN ON THE DRAWINGS SHALL HAVE THE SAME EFFECT AS IF SHOWN OR MENTIONED RESPECTIVELY IN BOTH. THE DESIGNER'S TECHNICAL SPECIFICATIONS TAKE PRIORITY OVER GENERAL SPECIFICATIONS AND DETAIL DRAWINGS TAKE PRECEDENCE OVER GENERAL DRAWINGS. ANY WORK SHOWN ON ONE DRAWING SHALL BE CONSTRUED TO BE SHOWN IN ALL RELEVANT DRAWINGS, AND THE CM WILL COORDINATE THE WORK AND THE DRAWINGS. IF ANY PORTION OF THE DESIGNER'S PLANS AND SPECIFICATIONS SHALL BE IN CONFLICT WITH ANY OTHER PORTION, THE VARIOUS DOCUMENTS COMPRISING THE CONTRACT DOCUMENTS SHALL GOVERN IN THE FOLLOWING ORDER OF PRECEDENCE: THIS AGREEMENT; ANY ADDENDUM ISSUED BY THE DESIGNER; THE SPECIFICATIONS; THE DRAWINGS; AS BETWEEN SCHEDULES AND INFORMATION GIVEN ON DRAWINGS, THE SCHEDULES SHALL GOVERN; AS BETWEEN FIGURES GIVEN ON DRAWINGS AND THE SCALED MEASUREMENTS, THE FIGURES SHALL GOVERN; AS BETWEEN LARGE-SCALE DRAWINGS AND SMALL SCALE DRAWINGS, THE LARGER SCALE DRAWINGS SHALL GOVERN. ANY SUCH CONFLICT OR INCONSISTENCY BETWEEN OR IN THE DRAWINGS SHALL BE SUBMITTED TO THE DESIGNER WHOSE DECISION THEREON SHALL BE FINAL AND CONCLUSIVE.

3.3.1.10 Public Relations
The CM shall assist the Owner in public relations activities and shall prepare information for and attend public meetings regarding the Project.

3.3.1.11 Project Funding
The CM shall assist the Owner in preparing documents concerning the Project and Construction Budget and for use in obtaining or reporting on project funding. The documents shall be prepared in a form approved by the Owner.

3.3.2 Time Management

3.3.2.1 Revisions to Master Schedule

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While performing the services provided in Paragraphs 3.3.1.1, 3.3.1.2 and as necessary throughout the Design Phase, the CM shall recommend revisions to the Master Schedule. The Owner shall issue change orders as needed to the appropriate parties to implement the Master Schedule revisions.

3.3.2.2 Monitoring the Design Phase Milestone Schedule
While performing the services provided in Paragraphs 3.3.1.3, and 3.3.1.4, the CM shall monitor compliance with the Design Phase Milestone Schedule.

3.3.2.3 Pre-Bid Construction Schedules
Prior to transmitting Contract Documents to bidders, the CM shall prepare a Pre-Bid Construction Schedule for each part of the Project and make the schedule available to the bidders during the Procurement Phase.

3.3.3 Cost Management

3.3.3.1 Cost Control
Following the completion of each design phase milestone, the CM shall prepare an estimate of the construction cost for the Design Drawings and Specifications furnished by the Designer. Each estimate shall be accompanied by a report to the Owner and Designer identifying variances from the Project and Construction Budget as well as CM's assumptions in preparing the estimate. The CM shall coordinate the activities of the Owner and Designer when changes to the design are required to remain within the Project and Construction Budget.

3.3.3.2 Project and Construction Budget Revision
The CM shall make recommendations to the Owner concerning the design changes that may result in revisions to the Project and Construction Budget and divisions of the Work required for the Project.

3.3.3.3 Value Engineering Studies
The CM shall provide value engineering recommendations to the Owner and Designer for major construction components, including cost evaluations of alternative materials and systems.

3.3.4 Management Information System (MIS)

3.3.4.1 Schedule Reports
In conjunction with the services provided by Paragraph 3.3.2.1, the CM shall prepare and distribute schedule maintenance reports that shall contrast actual progress against scheduled progress for the Design Phase and the overall Project and shall make recommendations to the Owner for corrective action.

3.3.4.2 Project Cost Reports
The CM shall prepare and distribute project cost reports that shall indicate estimated costs compared to the Project and Construction Budget and shall make recommendations to the Owner for corrective action.

3.3.4.3 Cash Flow Report
The CM shall periodically prepare and distribute a cash flow report.

3.3.4.4 Design Phase Change Order Report
The CM shall prepare and distribute Design Phase change order reports that shall list all Owner-approved change orders as of the date of the report and shall state the effect of the change orders on the Project and Construction Budget and the Master Schedule.

3.4 Procurement Phase

3.4.1 Project Management
THE CM SHALL PROCURE BIDS IN ACCORDANCE WITH N.C. GEN. STAT. § 143-128 TO-132. THE CM SHALL ENSURE THAT ALL MINORITY BUSINESS PARTICIPATION GOAL REQUIREMENTS ARE FOLLOWED IN THE SOLICITATION AND AWARD OF CONTRACTS. THE CM SHALL REPORT ITS EFFORTS TO SOLICIT MINORITY BUSINESS PARTICIPATION TO THE OWNER IN WRITING. UNLESS APPROVED OTHERWISE BY THE OWNER, A MINIMUM OF THREE BIDS SHALL BE REQUIRED FOR OPENING IF BIDS ARE RECEIVED IN ADVANCE OF THE GMP HAVING BEEN ESTABLISHED.

3.4.1.1 Prequalifying Bidders
The CM shall develop lists of possible bidders and ~~prequalifying bidders~~. This service shall ~~include the following: preparation and transmission of questionnaires; receiving and analyzing completed questionnaires; interviewing possible bidders, bonding agents, and financial institutions; and preparing summary reports regarding this activity to the Owner~~ BE PERFORMED IN ACCORDANCE WITH G.S. 143-128.1, G.S. 143-135.8, AND THE BOARD OF EDUCATION'S PREQUALIFICATION OF BIDDERS FOR CONSTRUCTION PROJECTS POLICY. The CM shall also prepare and transmit to the Owner a LIST OF PREQUALIFIED AND DISQUALIFIED bidders list for each bid package. THE CM SHALL PROVIDE THE OWNER WITH THE REASONS THAT ANY PROSPECTIVE BIDDERS HAVE BEEN DISQUALIFIED. The Owner shall notify the CM promptly of any reasonable objections to a proposed bidder, and the CM shall remove that bidder from the bidders list.

THE CM SHALL PROVIDE THE OWNER WITH A LIST OF ALL BUSINESSES IN WHICH THE CM'S OWNERS HAVE ANY OWNERSHIP INTEREST IF THE BUSINESS IS ENGAGED IN THE CONSTRUCTION INDUSTRY, INCLUDING DEMOLITION AND THE SUPPLY OF MATERIALS FOR CONSTRUCTION, AND THE CM INTENDS TO SOLICIT BIDS FOR ANY WORK ON THE PROJECT FROM THE BUSINESS. THE CM SHALL PROVIDE SAID LIST TO THE OWNER PRIOR TO PREQUALIFYING BIDDERS FOR THE WORK. THE OWNER SHALL DETERMINE WHETHER ANY BUSINESS LISTED MAY SUBMIT A BID OR PERFORM ANY WORK ON THE PROJECT.

3.4.1.2 Bidder's Interest Campaign
The CM shall conduct a telephonic and correspondence campaign to attempt to create interest among qualified bidders.

3.4.1.3 Notices and Advertisements
The CM shall prepare and place notices and advertisements to solicit bids for the Project AS PRESCRIBED BY N.C. GEN. STAT. § 143-128 TO -132.

3.4.1.4 Delivery of Bid Documents
The CM shall expedite the delivery of bid documents to the bidders. The CM shall obtain documents from the Designer and arrange for printing, binding, wrapping and delivery to the bidders. The CM shall maintain a record of bidders receiving documents. THE CM SHALL NOTIFY THE OWNER IN ADVANCE, IN WRITING, OF THE ANTICIPATED NUMBER OF BID DOCUMENTS TO BE PRODUCED. THE OWNER

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SHALL REIMBURSE THE CM FOR THE ACTUAL COST OF BID DOCUMENTS.

3.4.1.5 Pre-Bid Conference
In conjunction with the Designer, the CM shall conduct a Pre-Bid Conference. These conferences shall be forums for the CM and Designer to explain to the bidders the Project requirements, including information concerning schedule requirements, time and cost control requirements, access requirements, contractor interfaces, the project administrative requirements and technical information.

3.4.1.6 Information to Bidders
The CM shall develop and coordinate procedures to provide answers to bidders' questions.

3.4.1.6.1 Site Access for Bidders
IN THE EVENT BIDDERS REQUIRE ACCESS TO THE SITE IN ORDER TO GAIN INFORMATION NECESSARY TO PREPARE THEIR BIDS, THE CM SHALL BE RESPONSIBLE FOR COORDINATING ACCESS WITH THE OWNER. ANY ACCESS SHALL BE DURING REGULAR BUSINESS HOURS OR OTHERWISE AT A TIME THAT WOULD NOT UNREASONABLY DISTURB THE ADJACENT PROPETY OWNERS. IF THE INFORMATION SOUGHT BY THE BIDDERS REQUIRES ANY ALTERATION TO THE EXISTING BUILDING OR SITE OR DESTRUCTIVE TESTING, THE CM SHALL NOTIFY THE OWNER IN ADVANCE AND COORDINATE SAID WORK SO THAT IT DOES NOT CAUSE ANY DISRUPTION TO THE CURRENT USE OF THE SITE OR BUILDING. THE CM SHALL ENSURE THAT ANY DISTURBED AREAS ARE REPAIRED IF THE BUILDING IS CURRENTLY BEING USED BY THE OWNER. IN ALL SITUATIONS, THE CM SHALL ENSURE THAT THE SITE OR BUILDING IS LEFT IN A SAFE AND SECURE CONDITION AND THAT THE DISTURBED AREA IS CLEANED OF ANY DEBRIS RESULTING FROM THE ACCESS. IN THE EVENT THAT THE BIDDERS' ACCESS DISTURBS ANY ADJACENT PROPERTY, INCLUDING DEPOSITING DIRT, SOIL OR DEBRIS ON THE ROADS ADJACENT TO THE SITE, THE CM SHALL PROMPTLY CLEAN ANY AND ALL AREAS AND BE RESPONSIBLE FOR ANY CLAIMS, FINES OR PENALTIES RESULTING FROM SAID ACCESS.

3.4.1.7 Addenda
The CM shall receive from the Designer a copy of all addenda. The CM shall review addenda for clarity, consistency and coordination. By performing the reviews described herein, the CM is not acting in a manner so as to assume responsibility or liability, in whole or in part, for all or any part of the Project design ~~or the content of the design documents~~. The CM shall also distribute a copy of all addenda to each bidder receiving documents.

3.4.1.8 Bid Opening
THE CM SHALL ACT AS THE FIDUCIARY OF THE PUBLIC ENTITY IN HANDLING AND OPENING BIDS. ALL BIDS SHALL BE RECEIVED AND OPENED IN A MATTER AGREED UPON BY THE OWNER The CM shall conduct bid openings and shall evaluate the bids to determine the lowest responsive and responsible bidder. ~~The CM shall make recommendations to the Owner concerning the acceptance or rejection of bids.~~ , TAKING INTO CONSIDERATION QUALITY, PERFORMANCE, AND TIME SPECIFIED TO PERFORM. THE CONTRACTS SHALL BE AWARDED IN ACCORDANCE WITH N.C. GEN. STAT. § 143-128.1.

3.4.1.9 Construction Contracts
At the direction of the Owner, the CM shall prepare, execute, and deliver the Contract Documents between the CM and the Contractors. THE CONTRACT DOCUMENTS SHALL CONSIST OF THE PLANS AND SPECIFICATIONS, ANY ADDENDUM, THE GENERAL CONDITITIONS, THE FORM OF AGREEMENT BETWEEN THE CM AND THE CONTRACTOR, AND ANY OTHER DOCUMENTS INCORPORATED BY THE CM. The CM shall also issue the notices to proceed. THE CM SHALL NOT ISSUE CONTRACT DOCUMENTS OR NOTICES TO PROCEED WITH THE WORK TO THE CONTRACTORS UNTIL THE OWNER AND CM HAVE AGREED UPON THE AMOUNT OF REDUCTION, IF ANY, OF THE GMP AS A RESULT OF THE RECEIPT OF BIDS THAT ARE LOWER THAN THE ESTIMATED AMOUNT AND THE OWNER HAS NOTIFIED THE CM THAT IT CAN PROCEED WITH THE WORK.

3.4.1.10 Permits, Insurance and Labor Affidavits
The CM shall verify that the Contractor has secured the required building permits, bonds, insurance, labor affidavits, and waivers.

3.4.2 Time Management

3.4.2.1 Pre-Bid Construction Schedule
The CM shall inform the bidders of their responsibilities regarding the Pre-Bid Construction Schedule specified in the Instructions to Bidders or Contract Documents. THE CM SHALL INFORM THE BIDDERS OF THE OWNER'S REQUIREMENTS FOR SCHEDULING AND COMMUNICATION BETWEEN THE PARTIES.

3.4.2.2 ~~Contractor's~~ Construction Schedule
The CM shall provide a copy of the Master Schedule to the bidders. THE CM SHALL PREPARE A CONSTRUCTION SCHEDULE AND ALL UPDATES IN ACCORDANCE WITH THE OWNER'S SCHEDULING REQUIREMENTS. THE OWNER SHALL PROVIDE THE CM WITH ITS SCHEDULING REQUIREMENTS PRIOR TO RECEIPT OF BIDS FOR THE PROJECT. ~~As part of the Notice of Award, the CM shall inform each Contractor of the requirements for the preparation of a construction schedule. The Contractor shall prepare its own construction schedule in accordance with the requirements of the Contract Documents.~~

3.4.3 Cost Management

3.4.3.1 Estimates for Addenda
UNLESS THE OWNER HAS ELECTED TO ESTABLISH THE GMP AFTER BIDS HAVE BEEN RECEIVED, ~~T~~the CM shall prepare an estimate of costs for all addenda and shall submit the estimates to the Owner for approval. After approval by the Owner, the addenda shall be transmitted to bidders and the Guaranteed Maximum Price and the CM's compensation shall be adjusted as provided in this Agreement.

3.4.3.2 Analyzing Bids: Upon receipt of bids, the CM shall evaluate the bids, including alternate prices and unit prices.

3.4.4 Management Information System (MIS)

3.4.4.1 Schedule Maintenance Reports
The CM shall prepare and distribute schedule maintenance reports during the Procurement Phase. The reports shall compare the actual bid and award dates to scheduled bid and award dates and shall summarize the progress of the Project.

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3.4.4.2 Project Cost Reports
The CM shall prepare and distribute the project cost reports during the Procurement Phase. The reports shall specify the actual award prices and construction costs for the Project, compared to the Project and Construction Budget. THE CM SHALL PROVIDE UPDATED PROJECT COST REPORTS TO THE OWNER, WITH A COPY TO THE DESIGNER, ON AT LEAST A MONTHLY BASIS.

3.4.4.3 Cash Flow Reports
The CM shall prepare and distribute cash flow reports during the Procurement Phase. The reports shall be based on actual award prices and construction costs for the Project and the reports shall specify the actual cash flow compared to the projected cash flow.

3.5 Construction Phase

3.5.1 Project Management

3.5.1.1 Pre-Construction Conference
In connection with the Designer, the CM shall conduct a Pre-Construction Conference during which the CM shall review the reporting procedures, site operations and other contractual requirements.

3.5.1.2 Onsite Management and Construction Phase Communication Procedures
The CM shall provide and maintain a management team on the Project site to provide contract administration and the CM shall establish and implement coordination and communication procedures among the CM, Owner, Designer, and Contractors. THE CM'S PROJECT MANAGER AND SUPERINTENDENT SHALL BE APPROVED BY THE OWNER. THE OWNER RESERVES THE RIGHT TO REQUIRE THE REMOVAL OF A PARTICULAR PM OR SUPERINTENDENT AT ANY TIME THE OWNER REASONABLY BELIEVES THE PM OR SUPERINTENDENT IS ADVERSELY IMPACTING THE PROJECT. A PM OR SUPERINTENDENT APPROVED BY THE OWNER SHALL NOT BE REASSIGNED BY THE CM UNLESS THEY CEASE TO BE ON THE CM'S PAYROLL OR THE OWNER OTHERWISE AGREES.THE CM SHALL OBSERVE THE WORK AS REQUIRED FOR GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS. THE CM SHALL BE RESPONSIBLE FOR PROJECT SITE SAFETY AND THE MEANS AND METHODS FOR THE CONSTRUCTION OF THE PROJECT.

3.5.1.3 Contract Administration Procedures
The CM shall establish and implement procedures for expediting and processing requests for information, shop drawings, material and equipment sample submittals, Contractor schedule adjustments, change orders, substitutes, payment requests and the maintenance of logs. The CM shall maintain daily job reports. The CM shall be the party to whom requests for information, submittals, Contractor schedule adjustments, substitutes, change order requests and payment requests shall be submitted. THE CM SHALL PROVIDE PERIODIC REPORTS TO THE OWNER, WITH A COPY TO THE DESIGNER, UPDATING THE STATUS OF THE PROJECT. THE REPORTS SHALL BE PROVIDED NOT LESS THAN BI-WEEKLY. THE OWNER SHALL HAVE NO DUTY TO RESPOND TO ANY INFORMATION IN THE PERIODIC REPORTS, UNLESS THE CM SPECIFICALLY REQUESTS A RESPONSE OR ACTION BY THE OWNER IN WRITING IN A SEPARATE DOCUMENT.

3.5.1.4 Project Site Meetings
Periodically the CM shall conduct meetings at the Project site with each Contractor and the CM shall conduct coordination meetings with all Contractors, the Owner and Designer. THE CM SHALL CONDUCT WEEKLY PROGRESS MEETINGS WITH THE OWNER AND DESIGNER. The CM shall record, transcribe and distribute minutes to all attendees, the Owner and Designer.

3.5.1.5 Coordination of Other Independent Consultants
Technical inspection and testing provided by the Designer or others shall be coordinated by the CM. The CM shall be provided with a copy of all inspection and testing reports on the day of the inspection or test or when issued. The CM is not responsible for providing, nor does the CM control, the actual performance of technical inspection and testing. The CM is performing a coordination function and is not acting in a manner so as to assume responsibility, in part or in whole, for all or any part of such inspection and testing.

3.5.1.6 Review of Requests for Changes to the Contract Time and Price
The CM shall review the contents of a request for changes to the construction contract time or price submitted by a Contractor, assemble information concerning the request and endeavor to determine the cause of the requests. In instances where the CM's analysis reveals that the request is valid, the CM shall prepare a detailed report to the Owner ~~for approval~~ AND DESIGNER FOR REVIEW. IF THE OWNER APPROVES THE CHANGE, THE DESIGNER ~~The CM~~ shall prepare the necessary change order documents for signing by the ~~Contractor~~ CM and Owner. THE CM SHALL PREPARE THE NECESSARY CHANGE ORDER DOCUMENTS FOR EXECUTION BY THE CM AND CONTRACTORS.

3.5.1.7 Quality Review
The CM shall establish and implement a program to monitor the quality of construction. THE CM SHALL OBSERVE THE WORK AS REQUIRED FOR GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS. The purpose of the program shall be to guard the Owner against defects and deficiency in the work of the Contractor. The CM shall transmit to the Contractor a notice of nonconforming work and may reject work when it is the opinion of the CM that the work does not conform to the requirements of the Contract Documents. Except for minor variations as stated herein, the CM is not authorized as part of this service to change, evoke, enlarge, relax, alter, or to release any requirement of the Contract Documents or to approve or accept any portion of the Work not performed in accordance with the Contract Documents. THE DESIGNER SHALL HAVE THE FINAL AUTHORITY TO DECIDE THE ACCEPTABILITY OF THE WORK.

3.5.1.8 Operation and Maintenance Materials
The CM shall receive from the Contractors operation and maintenance manuals, warranties and guarantees for materials and equipment installed in the Project, in accordance with the Contract Documents.

3.5.1.9 Substantial Completion
~~In consultation with the Designer, the CM shall determine when the Project and the Contractor's Work is substantially complete. In consultation with the Designer, the CM shall, prior to issuing a Certificate of Substantial Completion, prepare a list of work that does not conform to the Contract Documents. This list shall be attached to the Certificate of Substantial Completion.~~
THE DATE OF SUBSTANTIAL COMPLETION OF THE WORK OR DESIGNATED PORTION THEREOF IS THE

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DATE CERTIFIED BY THE DESIGNER WHEN THE WORK OR A DESIGNATED PORTION THEREOF IS SUFFICIENTLY COMPLETE, IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, SO THE OWNER CAN FULLY OCCUPY AND UTILIZE THE WORK OR DESIGNATED PORTION THEREOF FOR THE USE FOR WHICH IT IS INTENDED, WITH ALL OF THE PROJECT'S PARTS AND SYSTEMS OPERABLE AS REQUIRED BY THE CONTRACT DOCUMENTS, INCLUDING A PRELIMINARY TEST AND BALANCE REPORT FOR THE MECHANICAL SYSTEM. THE CM ACKNOWLEDGES AND AGREES THAT THE INTERCOM, TELEPHONE, DATA, SECURITY, BUILDING AUTOMATION SYSTEM (INCLUDING FUNCTIONAL GRAPHICS AT THE SITE), MATV, AND OTHER EDUCATIONAL OPERATIONAL SYSTEMS ARE REQUIRED FOR THE OWNER'S USE OF THE BUILDING FOR ITS INTENDED PURPOSE. THE CM SHALL PROVIDE OPERATION & MAINTENANCE MANUALS TO THE OWNER AS REQUIRED BY THE CONTRACT DOCUMENTS PRIOR TO SUBSTANTIAL COMPLETION AND SHALL PROVIDE THE REQUIRED TRAINING ON THE OPERATION OF THE EQUIPMENT AND SYSTEMS WITHIN TWO WEEKS OF SUBSTANTIAL COMPLETION OF THE PROJECT. THE OWNER'S OCCUPANCY OF INCOMPLETE WORK SHALL NOT ALTER THE CM'S RESPONSIBILITIES PURSUANT TO THIS PARAGRAPH. ONLY INCIDENTAL CORRECTIVE WORK AND ANY FINAL CLEANING BEYOND THAT NEEDED FOR THE OWNER'S FULL USE MAY REMAIN FOR FINAL COMPLETION. THE ISSUANCE OF A TEMPORARY OR FINAL CERTIFICATE OF OCCUPANCY SHALL NOT, IN ITSELF, CONSTITUTE SUBSTANTIAL COMPLETION.

WHEN THE CM CONSIDERS THAT THE WORK, OR A DESIGNATED PORTION THEREOF WHICH IS ACCEPTABLE TO THE OWNER, IS SUBSTANTIALLY COMPLETE AS DEFINED ABOVE, THE CM SHALL PREPARE FOR AND SUBMIT TO THE DESIGNER AND OWNER A LIST OF ALL ITEMS WHICH IN THE CM'S OPINION ARE TO BE COMPLETED OR CORRECTED AND SHALL ATTACH IT TO A REQUEST IN WRITING THAT THE DESIGNER PERFORM A SUBSTANTIAL COMPLETION INSPECTION. THE OWNER'S OCCUPANCY OF INCOMPLETE WORK SHALL NOT ALTER THE CONTRACTOR'S RESPONSIBILITIES. THE DESIGNER SHALL REVIEW THE CM'S LIST AND SHALL COMPILE A PUNCH LIST OF ITEMS TO BE CORRECTED AND COMPLETED. THE FAILURE TO INCLUDE ANY ITEMS ON SUCH LIST DOES NOT ALTER THE RESPONSIBILITY OF THE CM TO COMPLETE ALL WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. WHEN THE DESIGNER AND CM ON THE BASIS OF AN INSPECTION JOINTLY DETERMINE THAT THE WORK OR DESIGNATED PORTION THEREOF IS SUBSTANTIALLY COMPLETE, THE DESIGNER WILL THEN PREPARE A CERTIFICATE OF SUBSTANTIAL COMPLETION WHICH SHALL ESTABLISH THE DATE OF SUBSTANTIAL COMPLETION, SHALL STATE THE RESPONSIBILITIES OF THE OWNER AND THE CM FOR SECURITY, MAINTENANCE, HEAT, UTILITIES, DAMAGE TO THE WORK, AND INSURANCE, AND SHALL SIGNIFY THE BEGINNING OF THE TIME WITHIN WHICH THE CM SHALL COMPLETE THE ITEMS LISTED THEREIN. WARRANTIES REQUIRED BY THE CONTRACT DOCUMENTS SHALL COMMENCE ON THE DATE OF SUBSTANTIAL COMPLETION OF THE WORK OR DESIGNATED PORTION THEREOF, UNLESS OTHERWISE PROVIDED IN THE CERTIFICATE OF SUBSTANTIAL COMPLETION. THE CERTIFICATE OF SUBSTANTIAL COMPLETION SHALL BE SUBMITTED TO THE OWNER AND THE CM FOR THEIR WRITTEN ACCEPTANCE OF THE RESPONSIBILITIES ASSIGNED TO THEM IN SUCH CERTIFICATE.

UPON SUBSTANTIAL COMPLETION OF THE WORK OR DESIGNATED PORTION THEREOF AND UPON APPLICATION BY THE CM AND CERTIFICATION BY THE DESIGNER, THE OWNER SHALL MAKE PAYMENT, EXCEPT RETAINAGE HELD PURSUANT TO THE CONTRACT DOCUMENTS AND STATE LAW, FOR SUCH WORK OR PORTION THEREOF AS PROVIDED IN THE CONTRACT DOCUMENTS.

THE ACCEPTANCE OF FINAL PAYMENT SHALL CONSTITUTE A WAIVER OF ALL CLAIMS BY THE CM AND ITS CONTRACTORS, EXCEPT THOSE PREVIOUSLY MADE IN WRITING AND IDENTIFIED BY THE CM AS UNSETTLED AT THE TIME THE CM SUBMITS THE APPLICATION FOR PAYMENT FOR SUBSTANTIAL COMPLETION, AND EXCEPT FOR THE RETAINAGE SUMS DUE AT FINAL ACCEPTANCE, THE CM SHALL INDEMNIFY AND HOLD THE OWNER HARMLESS AGAINST ANY CLAIMS BY the CONTRACTORS THAT ARE WAIVED BECAUSE THEY WERE NOT MADE IN WRITING AND IDENTIFIED BY THE CM AS UNSETTLED WHEN THE CM SUBMITTED THE APPLICATION FOR PAYMENT FOR SUBSTANTIAL COMPLETION.

THE OWNER SHALL HAVE THE OPTION TO CORRECT OR COMPLETE ANY AND ALL PUNCH LIST ITEMS NOT COMPLETED BY THE CM TO THE SATISFACTION OF THE DESIGNER AND THE OWNER WITHIN THE TIME SPECIFIED FOR FINAL COMPLETION BY UTILIZING ITS OWN FORCES OR BY HIRING OTHERS. THE COST OF SUCH CORRECTION OF REMAINING PUNCH LIST ITEMS BY THE OWNER OR OTHERS SHALL BE DEDUCTED FROM THE FINAL PAYMENT TO THE CM. IF CM DOES NOT COMPLETE CERTAIN PUNCH LIST ITEMS WITHIN THE REQUIRED TIME PERIOD, ALL WARRANTIES AND GUARANTEES FOR SUCH INCOMPLETE PUNCH LIST ITEMS SHALL BECOME EFFECTIVE UPON ISSUANCE OF FINAL PAYMENT FOR THE PROJECT.

THE ISSUANCE OF THE CERTIFICATE OF SUBSTANTIAL COMPLETION DOES NOT INDICATE FINAL ACCEPTANCE OF THE PROJECT BY THE OWNER, AND THE CM IS NOT RELIEVED OF ANY RESPONSIBILITY FOR THE PROJECT EXCEPT AS SPECIFICALLY STATED IN THE CERTIFICATE OF SUBSTANTIAL COMPLETION.

SHOULD THE DESIGNER AND THE OWNER DETERMINE THAT THE WORK OR A DESIGNATED PORTION THEREOF IS NOT SUBSTANTIALLY COMPLETE, THEY SHALL PROVIDE THE CM WITH WRITTEN NOTICE STATING WHY THE PROJECT OR DESIGNATED PORTION IS NOT SUBSTANTIALLY COMPLETE. THE CM SHALL EXPEDITIOUSLY COMPLETE THE WORK AND SHALL RE-REQUEST IN WRITING THAT THE DESIGNER PERFORM ANOTHER SUBSTANTIAL COMPLETION INSPECTION. COSTS, IF ANY, ASSOCIATED WITH SUCH REINSPECTION SHALL BE ASSESSED TO THE CM AT THE RATE SPECIFIED IN THE DESIGNER'S CONTRACT.

3.5.1.10 Final Completion

In consultation with the CM, the DESIGNER shall determine when the Project and the Contractors' Work is finally completed and, following completion of corrections, THE DESIGNER shall issue a Certificate of Final Completion to the

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Owner. THE DATE OF FINAL COMPLETION OF THE WORK IS THE DATE CERTIFIED BY THE DESIGNER AND THE OWNER WHEN THE WORK IS TOTALLY COMPLETE, TO INCLUDE PUNCHLIST WORK, IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND THE OWNER MAY FULLY OCCUPY AND UTILIZE THE PROJECT FOR THE USE FOR WHICH IT IS INTENDED. THE ISSUANCE OF A TEMPORARY OR FINAL CERTIFICATE OF OCCUPANCY SHALL NOT, IN ITSELF, CONSTITUTE FINAL COMPLETION. IF MORE THAN TWO (2) FINAL COMPLETION INSPECTIONS ARE REQUIRED BY THE DESIGNER DUE TO THE CM'S FAILURE TO COMPLETE THE WORK, THE ADDITIONAL INSPECTIONS SHALL BE CHARGED TO THE CM AT THE RATE SPECIFIED IN THE DESIGNER'S CONTRACT. ALL PUNCH LIST WORK SHALL BE COMPLETE. IF ANY CHANGE ORDER IS ISSUED FOR WORK TO BE PERFORMED AFTER THE SUBSTANTIAL COMPLETION CERTIFICATE IS ISSUED, THE COMPLETION DATE FOR THAT WORK SHALL BE ESTABLISHED SEPARATELY AND SHALL NOT PREVENT THE PROJECT FROM ACHIEVING FINAL COMPLETION FOR PURPOSES OF SECTIONS 7.6 AND 7.7 OF THIS AGREEMENT. Following the receipt of payment from the Owner, the CM shall make all payments due to Contractors WITHIN TEN (10) DAYS. ~~Receipt of payment from the Owner is a condition precedent to payment of the Contractors.~~

FOR MULTI-PHASED PROJECTS, FINAL COMPLETION OF EACH PHASE SHALL INCLUDE THE COMPLETION OF ALL WORK FOR THE PHASE WITH THE EXCEPTION OF ANY SYSTEM THAT IS REQUIRED TO BE INTEGRATED INTO A PHASE THAT HAS A LATER CONTRACT DATE FOR FINAL COMPLETION. THIS EXCEPTION MIGHT APPLY TO THE HVAC, DATA, INTERCOM, OR SIMILAR SYSTEMS. NOTWITHSTANDING THE ABOVE, COMPLETE AND PROPER OPERATION OF ALL SYSTEMS SHALL BE REQUIRED FOR THE PROJECT TO ACHIEVE FINAL COMPLETION.

3.5.2 Time Management

3.5.2.1 Master Schedule
The CM shall adjust and update the Master Schedule and distribute copies to the Owner and Designer. All adjustments to the Master Schedule shall be made for the benefit of the Project.

3.5.2.2 ~~Contractor's Construction~~ Schedule
The CM shall ADJUST AND UPDATE THE ~~review each Contractor's Construction~~ Schedule and shall verify that the schedule is prepared in accordance with the requirements of the ~~Contract Documents~~ OWNER NOTED IN PARAGRAPH 3.4.2.2 and that it establishes completion dates that comply with the requirements of the Master Schedule. THE CM AGREES THAT THE CONSTRUCTION SCHEDULE IS FOR THE BENEFIT OF THE ENTIRE PROJECT TEAM AND BY EXECUTION OF THIS AGREEMENT GIVES PERMISSION AND DIRECTION TO ITS SCHEDULER TO PROVIDE COPIES OF THE SCHEDULE IN A FORMAT AS REQUIRED BY THE OWNER.

3.5.2.3 Construction Schedule Report
The CM shall review the progress of construction of each Contractor on a monthly basis, shall evaluate the percentage complete of each construction activity as indicated in the ~~Contractor's Construction~~ Schedule and shall review such percentages with the Contractor. This evaluation shall serve as data for input to the periodic Construction Schedule report that shall be prepared and distributed to the Contractor, the Owner and Designer. The report shall indicate the actual progress compared to scheduled progress and shall serve as the basis for the progress payment to the Contractor. The CM shall determine and implement alternative courses of action that may be necessary to achieve contract compliance by the Contractor.

3.5.2.4 CM Review of Time Extension Requests
The CM shall, prior to the issuance of a change order, determine the effect on the CONSTRUCTION AND Master Schedules of time extensions requested by the Contractor.

3.5.2.5 Recovery Schedules
The CM ~~may require the Contractor to~~ SHALL prepare and submit a recovery schedule as ~~specified in the Contract Documents~~ IN ACCORDANCE WITH THE OWNER'S SCHEDULING REQUIREMENTS SPECIFIED IN APPENDIX I.

3.5.3 Cost Management

3.5.3.1 Schedule of Values (Each Contract)
The CM shall, in participation with the Contractors, determine a Schedule of Values for each of the construction contracts. The Schedule of Values shall be the basis for PAYMENT TO THE CONTRACTORS ~~the allocation of the Construction Contract price to the activities shown on the Contractor's Construction Schedule.~~

3.5.3.2 ~~Allocation of Costs to Contractor's Construction Schedule~~
~~The Contractor's Construction Schedule shall have the total Construction Contract price allocated among the Contractor's scheduled activities so that each of the Contractor's activities shall be allocated a price and the sum of the prices of the activities shall equal the total Construction Contract price. The CM shall review the contract price allocations and verify that such allocations are made in accordance with the requirements of the Contract Documents. Progress Payments to the Contractor shall be based on the Contractor's percentage of completion of the scheduled activities as set out in the Construction Schedule report and the Contractor's compliance in accordance with the Contract Documents.~~

3.5.3.3 Change Order Control
The CM shall establish and implement a change order control system THAT IS APPROVED BY THE OWNER.

3.5.3.3.1 All proposed Owner-initiated change orders shall first be described in detail in writing ~~by the Owner to the CM and then shall be forwarded in a request for proposal to the Contractor, accompanied by technical drawings and specifications prepared by the Designer~~. In response to the request for a proposal, the Contractor shall submit to the CM for evaluation detailed information concerning the costs and time adjustments, if any, necessary to perform the proposed change order work. The CM shall review the Contractor's proposal, shall discuss the proposed change order with the Contractor and endeavor to determine the Contractor's basis for the cost and time to perform the Work and, as applicable, the effect, if any, on the Guaranteed Maximum Price. The CM shall present its findings to the Owner and, following Owner acceptance, THE DESIGNER shall prepare the change order documents for signature by the CM and Owner. Upon execution of the change order documents between the CM and Owner, the CM shall prepare change order documents for signature by the affected Contractor. The CM shall verify that

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the Work, and any adjustment of time required by approved change orders has been incorporated into the Contractor's Construction Schedule.

3.5.3.3.2 The CM shall review the contents of all Contractor-requested changes to the contract time or price, endeavor to determine the effect, if any, on the Guaranteed Maximum Price. The CM shall provide the Designer a copy of each change request, and the CM shall, in its evaluations of the Contractor's request, consider the Designer's comments regarding the proposed changes. The CM shall present its findings to the Owner regarding the proposed changes and at the Owner's direction, shall prepare the change order documents for signature by the CM and Owner. Upon execution of the change order documents between the CM and Owner, the CM shall prepare change order documents for signature by the affected Contractor.

3.5.3.4 Cost Records
In instances where a lump sum or unit price is not determined prior to performing Work described in a request for proposal as provided in Paragraph 3.5.3.3, the CM shall request from the Contractor records of the cost of payroll, materials and equipment and the amount of payments to subcontractors incurred by the Contractor in performing the Work.

3.5.3.5 Trade-Off Studies
The CM shall provide trade-off studies for various minor construction components. The results of the trade-off studies shall be in report form and distributed to the Owner and Designer.

3.5.3.6 Progress Payments
In consultation with the Designer, the CM shall INSPECT THE WORK IN ORDER TO ENSURE COMPLIANCE WITH THE CONTRACT DOCUMENTS, review the payment applications submitted by each Contractor and determine whether the amount requested reflects the progress of the Contractor's Work. The CM shall make appropriate adjustments to each payment application and shall prepare and forward to the Owner a progress payment report. The report shall state the total contract price, payments to date, current payment requested, retainage and actual amounts owed for the current period. Included in this report shall be a certificate of payment that shall be signed by the CM and delivered to the Owner. The CM shall make payments that are due to all contractors, suppliers, and material men within ten (10) days following the receipt of payment for the work from the Owner. ~~Receipt by the CM of payment from the Owner is a condition precedent to payment to a Contractor.~~ In addition, the CM shall keep the Project and the site on which Work is performed free and clear of all liens ~~and claims~~ from Contractors, subcontractors, or suppliers. THE CM SHALL PROVIDE SALES TAX INFORMATION USING THE FORM ATTACHED AS APPENDIX A WITH EACH PAYMENT APPLICATION.

PAYMENTS MAY BE MADE BY THE OWNER, AT ITS SOLE DISCRETION, ON ACCOUNT OF MATERIALS OR EQUIPMENT NOT INCORPORATED IN THE WORK BUT DELIVERED AND SUITABLY STORED AT THE SITE OR IN A BONDED WAREHOUSE BY THE CM OR CONTACTOR. PAYMENTS FOR MATERIALS OR EQUIPMENT STORED SHALL ONLY BE CONSIDERED UPON SUBMISSION BY THE CM OF SATISFACTORY EVIDENCE (FOR EXAMPLE, RELEASES OR PAID INVOICES FROM THE SELLER) THAT THE CM OR THE CONTRACTOR HAS ACQUIRED TITLE TO SUCH MATERIAL, THAT IT WILL BE UTILIZED ON THE WORK UNDER THIS CONTRACT AND THAT IT IS SATISFACTORILY STORED, PROTECTED, AND INSURED OR THAT OTHER PROCEDURES SATISFACTORY TO THE OWNER THAT WILL PROTECT THE OWNER'S INTERESTS HAVE BEEN TAKEN. IN THE EVENT THE MATERIALS ARE STORED IN A BONDED WAREHOUSE THAT IS NOT LOCATED IN THE COUNTY OF THE PROJECT, THE CM SHALL REIMBURSE THE TRAVEL COST AND HOURLY BILLING EXPENSES INCURRED BY THE DESIGNER FOR TRAVEL TO VIEW AND ASSESS WHETHER THE MATERIALS MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. MATERIALS ONCE PAID FOR BY THE OWNER BECOME THE PROPERTY OF THE OWNER AND MAY NOT BE REMOVED FROM THE WORK SITE OR BONDED WAREHOUSE, OTHER THAN TO BE DELIVERED FROM THE WAREHOUSE TO THE SITE, WITHOUT THE OWNER'S WRITTEN PERMISSION. RESPONSIBILITY FOR SUCH STORED MATERIALS AND EQUIPMENT SHALL REMAIN WITH THE CM AND THE CONTRACTOR REGARDLESS OF OWNERSHIP.

THE OWNER WILL RETAIN FIVE PERCENT OF THE AMOUNT FOR EACH PROGRESS PAYMENT ON THE PROJECT, EXCLUDING THE AMOUNT BILLED FOR GENERAL CONDITIONS, FOR AS LONG AS IS AUTHORIZED BY G.S. 143-134.1. AT ALL TIMES DURING THE PROJECT, THE OWNER SHALL RETAIN THE MAXIMUM FUNDS ALLOWED BY G.S. 143-134.1. THE OWNER SPECIFICALLY RESERVES THE RIGHT TO WITHHOLD ADDITIONAL FUNDS AS AUTHORIZED BY THIS AGREEMENT OR G.S. 143-134.1.

3.5.3.7 DECISIONS TO WITHHOLD PAYMENT
THE DESIGNER MAY WITHHOLD A CERTIFICATE FOR PAYMENT IN WHOLE OR IN PART, TO THE EXTENT REASONABLY NECESSARY TO PROTECT THE OWNER. IF THE DESIGNER IS UNABLE TO CERTIFY PAYMENT IN THE AMOUNT OF THE APPLICATION, THE DESIGNER WILL NOTIFY THE CM AND THE OWNER IN WRITING. IF THE CM AND DESIGNER CANNOT AGREE ON A REVISED AMOUNT, THE DESIGNER WILL PROMPTLY ISSUE A CERTIFICATE FOR PAYMENT FOR THE AMOUNT FOR WHICH THE DESIGNER IS ABLE TO MAKE SUCH REPRESENTATIONS TO THE OWNER. THE DESIGNER MAY ALSO WITHHOLD A CERTIFICATE FOR PAYMENT, IN WHOLE OR IN PART, TO SUCH EXTENT AS MAY BE NECESSARY IN THE DESIGNER'S OPINION TO PROTECT THE OWNER FROM LOSS FOR WHICH THE CM OR THE CONTRACTOR(S) IS RESPONSIBLE, INCLUDING LOSS RESULTING FROM ACTS AND OMISSIONS, BECAUSE OF:

.1 DEFECTIVE WORK NOT REMEDIED;

.2 THIRD PARTY CLAIMS FILED OR REASONABLE EVIDENCE INDICATING PROBABLE FILING OF SUCH CLAIMS UNLESS SECURITY ACCEPTABLE TO THE OWNER IS PROVIDED BY THE CM;

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.3 FAILURE OF THE CM OR CONTRACTOR(S) TO MAKE PAYMENTS PROPERLY TO SUB-CONTRACTORS OR FOR LABOR, MATERIALS OR EQUIPMENT;

.4 REASONABLE EVIDENCE THAT THE WORK CANNOT BE COMPLETED FOR THE UNPAID BALANCE OF THE CONTRACT SUM;

.5 DAMAGE TO THE OWNER OR ANOTHER CONTRACTOR;

.6 REASONABLE EVIDENCE THAT THE WORK WILL NOT BE COMPLETED WITHIN THE CONTRACT TIME, AND THAT THE UNPAID BALANCE WOULD NOT BE ADEQUATE TO COVER ACTUAL OR LIQUIDATED DAMAGES FOR THE ANTICIPATED DELAY;

.7 FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS;

.8 FAILURE TO PROVIDE SALES TAX DOCUMENTATION AS REQUIRED BY THE OWNER;

.9 FAILURE OR REFUSAL OF THE CONTRACTOR TO SUBMIT THE REQUIRED INFORMATION ON MINORITY BUSINESS ENTERPRISES;

.10 ANY OTHER REASON DEEMED NECESSARY BY THE DESIGNER TO PROTECT THE OWNER; OR

.11 SUBSEQUENTLY DISCOVERED EVIDENCE THAT WORK PREVIOUSLY APPROVED WAS NOT PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

3.5.3.8
WHEN THE ABOVE REASONS FOR WITHHOLDING CERTIFICATION ARE REMOVED, CERTIFICATION WILL BE MADE FOR AMOUNTS PREVIOUSLY WITHHELD.

3.5.3.9 NO INTEREST SHALL BE ADDED TO ANY AMOUNTS WITHHELD PURSUANT TO PARAGRAPH 3.5.3.7.

3.5.4 Management Information System (MIS)

3.5.4.1 Schedule Maintenance Reports
The CM shall prepare and distribute MONTHLY schedule maintenance reports during the Construction Phase. The reports shall compare the actual construction dates to scheduled construction dates of each separate construction contract and to the Master Schedule for the Project.

3.5.4.2 Project Cost Reports
The CM shall prepare and distribute MONTHLY Project cost reports during the Construction Phase. The reports shall specify actual Project and construction costs compared to the Project and Construction Budget.

3.5.4.3 Project and Construction Budget Revisions
The CM shall make recommendations to the Owner concerning construction changes that may result in revisions to the Project and Construction Budget or Guaranteed Maximum Price.

3.5.4.4 Cash Flow Reports
The CM shall prepare and distribute cash flow reports during the Construction Phase. The reports shall specify actual cash flow as compared to projected cash flow.

3.5.4.5 Progress Payment Reports (Each Contract)
The CM shall prepare and distribute the progress payment reports. The reports shall state the total construction contract price, payment to date, current payment requested, retainage, SALES TAX PAID, and actual amounts owed this period. A portion of this report shall be a certificate of payment that shall be signed by the CM CERTIFYING THAT THE WORK COMPLIES WITH THE CONTRACT DOCUMENTS and delivered to the Owner for use by the Owner in making payments to the CM.

3.5.4.6 Change Order Reports
The CM shall periodically prepare and distribute change order reports during the Construction Phase. The report shall list all Owner-approved change orders by number, a brief description of the change order work, the cost established in the change order and percent of completion of the change order work. The report shall also include similar information for potential change orders of which the CM may be aware. THE REPORT SHALL ALSO INCLUDE A SUMMARY OF THE IMPACT OF THE CHANGE ORDERS ON THE PROJECT SCHEDULE AND COMPLETION DATES.

3.5.4.7 Contractor's Safety Program
The CM shall review the safety programs of each Contractor and confirm that each Contractor has established safety programs as required by the Contract Documents.

3.6 Post Construction Phase

3.6.1 Project Management

3.6.1.1 Record Documents
THE CM PROJECT SUPERINTENDENT SHALL MAINTAIN A FIELD SET OF DRAWINGS FOR THE DURATION OF THE CONSTRUCTION PERIOD. THE CM PROJECT MANAGER SHALL REVIEW THE SUPERINTENDENT'S FIELD SET TO CONFIRM THAT ALL ADDENDA AND BULLETIN DRAWINGS HAVE BEEN ACCURATELY INCORPORATED. DURING CONSTRUCTION THE FIELD SET SHALL BE UPDATED TO INCLUDE ALL RFI RESPONSES, APPROVED CHANGE ORDERS AND ANY MINOR PLAN CLARIFICATIONS MADE BY THE DESIGNER DURING SITE VISITS. THE CM SHALL PROVIDE EVIDENCE TO THE DESIGNER ON A MONTHLY BASIS THAT IT IS MAINTAINING AN ACCURATE AND COMPLETE COPY OF ALL CHANGES IN THE WORK IN A FORM THAT WILL FACILITATE THE PROMPT AND ACCURATE CREATION OF RECORD DRAWINGS. WITHIN 30 DAYS OF SUBSTANTIAL COMPLETION, THE FIELD SET (INCLUDING GENERAL, PLUMBING, MECHANICAL AND ELECTRICAL AS-BUILT DRAWINGS) SHALL BE DELIVERED TO THE ARCHITECT FOR PREPARATION OF RECORD DRAWINGS. PRIOR TO DELIVERY, THE CM PROJECT MANAGER SHALL THOROUGHLY REVIEW THE AS-BUILT FIELD SET FOR COMPLETENESS AND TRANSMIT SAID DRAWINGS TO THE DESIGNER WITH A LETTER STATING THAT THE DRAWINGS ARE COMPLETE AND ACCURATELY REFLECT THE CONSTRUCTION.

3.6.1.2 Organize and Index Operations and Maintenance Materials
Prior to ~~final~~ SUBSTANTIAL completion of the Project the CM shall compile manufacturers' operations and maintenance

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manuals, warranties and guarantees and bind such documents in an organized manner. A MINIMUM OF THREE (3) COPIES OF THIS information shall then be provided to the Owner.

3.6.1.3 Occupancy Permit
The CM shall ~~assist the Owner in~~ BE RESPONSIBLE FOR obtaining THE FINAL occupancy permit by accompanying governmental officials during inspections of the Project, preparing and submitting documentation to governmental agencies and coordinating final testing and other activities.

3.6.1.4 CLOSEOUT DOCUMENTS AND TEST REPORTS
THE CM SHALL ORGANIZE AND PROVIDE THE OWNER ALL CLOSEOUT DOCUMENTS AND TEST REPORTS THAT THE CONTRACTORS ARE REQUIRED TO PROVIDE FOR THE PROJECT.

3.6.1.5 OWNER TRAINING
THE CM SHALL COORDINATE OR PROVIDE ALL TRAINING OF THE OWNER'S PERSONNEL REQUIRED BY THE CONTRACT DOCUMENTS.

3.6.2 Time Management

3.6.2.1 Occupancy Plan The CM shall prepare an Occupancy Plan for the Project. This plan shall be provided to the Owner. THE PLAN SHALL INCLUDE EARLY ACCCESS, TRAINING ON THE USE OF EQUIPMENT AND SYSTEMS, DELIVERY OF FURNITURE AND ANY OTHER ACTIVITIES REQUESTED BY THE OWNER. THE PLAN SHALL COMPLY WITH ALL DEADLINES PROVIDED BY THE OWNER.

3.6.3 Cost Management

3.6.3.1 Change Orders
The CM shall continue to provide services related to change orders as specified in Paragraph 3.5.3.3.

3.6.4 Management Information System (MIS)

3.6.4.1 Closeout Reports
At the conclusion of the Project, the CM shall prepare final project accounting and closeout reports.

3.6.4.2 MIS Reports for Move-in and Occupancy
The CM shall prepare and distribute reports associated with the Occupancy Plan.

3.7 Additional Services

3.7.1 At the request of the Owner, the CM shall perform the following Additional Services and shall be compensated for same as provided in Article 7 of this ~~Agreement~~, EXCEPT THAT PARAGRAPHS 3.7.1.2, 3.7.1.7, 3.7.1.8, 3.7.1.10, 3.7.1.12, 3.7.1.15, 3.7.1.16 AND 3.7.1.17 SHALL BE PROVIDED AS PART OF THE BASIC SERVICES. The CM shall perform Additional Services only after the Owner and CM have executed a written ~~amendment~~ CHANGE ORDER to this Agreement providing for such services. Additional Services may include:

3.7.1.1 Services related to investigation, appraisal, or evaluation of existing conditions, facilities, or equipment or determination of the accuracy of existing drawings or other information furnished by the Owner THAT ARE NOT REQUIRED TO BE PERFORMED BY THE CM IN THE BASIC SERVICES;

3.7.1.2 Services related to procurement, storage, maintenance and installation of Owner-furnished equipment, materials, supplies and furnishings;

3.7.1.3 Services related to determination of space needs;

3.7.1.4 Preparation of space programs;

3.7.1.5 Services related to building site investigations and analyses THAT ARE NOT REQUIRED TO BE PERFORMED BY THE CM IN THE BASIC SERVICES;

3.7.1.6 Services for tenant or rental spaces;

3.7.1.7 Preparation of a Project financial feasibility study;

3.7.1.8 Preparation of financial, accounting or MIS reports not provided under Basic Services;

3.7.1.9 Performance of technical inspection or testing;

3.7.1.10 Preparation of an Operations and Maintenance Manual FOR ALL MATERIALS AND EQUIPMENT REASONABLY REQUIRED FOR THE OWNER'S USE OF THE PROJECT.

3.7.1.11 Services related to recruiting and training of maintenance personnel;

3.7.1.12 Performance of warranty inspections AND CORRECTION OF WARRANTY ITEMS during the warranty period of the Project;

3.7.1.13 Services related to interfacing or working with the Designer or other consultants that are beyond the scope of this Agreement;

3.7.1.14 Consultation regarding replacement of work damaged by fire or other cause during construction and furnishing services in connection with the replacement of such work;

3.7.1.15 Services made necessary by the failure to perform by or bankruptcy of a Contractor;

3.7.1.16 Preparation for and serving as a witness REGARDING THE CM'S OBSERVATIONS ON THE PROJECT in connection with any public or private hearing or arbitration mediation or legal proceeding;

3.7.1.17 Assisting the Owner in public relations activities and preparing information for and attending public meetings; and

3.7.1.18 Services related to move-in including preparing and soliciting responses to requests for proposals, preparing and coordinating the execution of contracts, conducting pre-moving conferences, administering the contract for moving activities in conjunction with the move-in for the Project and providing on-site personnel to oversee the relocation of furniture and equipment by the movers while actual move-in is in progress.

3.8 WARRANTY

3.8.1 THE CM WARRANTS TO THE OWNER AND THE DESIGNER THAT ALL MATERIALS AND EQUIPMENT FURNISHED UNDER THIS AGREEMENT WILL BE NEW UNLESS OTHERWISE SPECIFIED, AND THAT ALL

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WORKMANSHIP WILL BE IN ACCORDANCE WITH GENERALLY ACCEPTED INDUSTRY STANDARDS, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS AND ALL OTHER WARRANTIES AND GUARANTIES SPECIFIED THEREIN. WHERE NO STANDARD IS SPECIFIED FOR SUCH WORKMANSHIP OR MATERIALS, THEY SHALL BE THE BEST OF THEIR RESPECTIVE KINDS. ALL WORK NOT CONFORMING TO THESE REQUIREMENTS, INCLUDING SUBSTITUTIONS NOT PROPERLY APPROVED AND AUTHORIZED, MAY BE CONSIDERED DEFECTIVE. IF REQUIRED BY THE OWNER OR THE DESIGNER, THE CM SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF MATERIALS AND EQUIPMENT.

3.8.2 THE CM WILL BE REQUIRED TO COMPLETE THE WORK SPECIFIED AND TO PROVIDE ALL ITEMS NEEDED FOR CONSTRUCTION OF THE PROJECT, COMPLETE AND IN GOOD ORDER.

3.8.3 THE WARRANTIES SET FORTH IN THIS SECTION AND ELSEWHERE IN THE CONTRACT DOCUMENTS SHALL SURVIVE FINAL COMPLETION OF THE WORK.

3.8.4 THE CM GUARANTEES AND WARRANTS TO THE OWNER ALL WORK AS FOLLOWS:

.1 THAT ALL MATERIALS AND EQUIPMENT FURNISHED UNDER THIS AGREEMENT WILL BE NEW AND THE BEST OF ITS RESPECTIVE KIND UNLESS OTHERWISE SPECIFIED;

.2 THAT ALL WORK WILL BE IN ACCORDANCE WITH GENERALLY ACCEPTED INDUSTRY STANDARDS AND FREE OF OMISSIONS AND FAULTY, POOR QUALITY, IMPERFECT AND DEFECTIVE MATERIAL OR WORKMANSHIP;

.3 THAT THE WORK SHALL BE ENTIRELY WATERTIGHT AND LEAK PROOF IN ACCORDANCE WITH ALL APPLICABLE INDUSTRY CUSTOMS AND PRACTICES, AND SHALL BE FREE OF SHRINKAGE AND SETTLEMENT;

.4 THAT THE WORK, INCLUDING BUT NOT LIMITED TO, MECHANICAL AND ELECTRICAL MACHINES, DEVICES AND EQUIPMENT, SHALL BE FIT AND FULLY USABLE FOR ITS INTENDED AND SPECIFIED PURPOSE AND SHALL OPERATE SATISFACTORILY WITH ORDINARY CARE;

.5 THAT CONSISTENT WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS, THE WORK SHALL BE INSTALLED AND ORIENTED IN SUCH A MANNER AS TO FACILITATE UNRESTRICTED ACCESS FOR THE OPERATION AND MAINTENANCE OF FIXED EQUIPMENT;

.6 THAT THE WORK WILL BE FREE OF ABNORMAL OR UNUSUAL DETERIORATION WHICH OCCURS BECAUSE OF POOR QUALITY MATERIALS, WORKMANSHIP OR UNSUITABLE STORAGE; AND

.7 THAT THE PRODUCTS OR MATERIALS INCORPORATED IN THE WORK WILL NOT CONTAIN ASBESTOS.

3.8.5 ALL WORK NOT CONFORMING TO GUARANTEES AND WARRANTIES SPECIFIED IN THE CONTRACT DOCUMENTS, INCLUDING SUBSTITUTIONS NOT PROPERLY APPROVED AND AUTHORIZED, MAY BE CONSIDERED DEFECTIVE. IF REQUIRED BY THE DESIGNER OR OWNER, THE CM SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF MATERIALS AND EQUIPMENT.

3.8.5.1 THE CM WILL SUBMIT A WRITTEN AFFIDAVIT CERTIFYING THAT NONE OF THE MATERIALS INCORPORATED IN THE PROJECT CONTAIN ASBESTOS.

3.8.6 IF, WITHIN ONE (1) YEAR AFTER THE DATE OF SUBSTANTIAL COMPLETION OF THE WORK OR DESIGNATED PORTION THEREOF OR WITHIN SUCH LONGER PERIOD OF TIME AS MAY BE PRESCRIBED BY LAW OR BY THE TERMS OF ANY APPLICABLE SPECIAL WARRANTY REQUIRED BY THE CONTRACT DOCUMENTS, ANY OF THE WORK IS FOUND TO BE DEFECTIVE, NOT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, OR NOT IN ACCORDANCE WITH THE GUARANTEES AND WARRANTIES SPECIFIED IN THE CONTRACT DOCUMENTS, THE CM SHALL CORRECT IT WITHIN FIVE (5) WORKING DAYS OR SUCH OTHER PERIOD AS MUTUALLY AGREED, AFTER RECEIPT OF NOTICE FROM THE OWNER TO DO SO. THE OWNER SHALL GIVE SUCH NOTICE WITH REASONABLE PROMPTNESS AFTER DISCOVERY OF THE CONDITION. FOR ITEMS THAT REMAIN INCOMPLETE OR UNCORRECTED ON THE DATE OF SUBSTANTIAL COMPLETION, THE ONE (1) YEAR WARRANTY SHALL BEGIN ON THE DATE OF FINAL COMPLETION OF THE WORK OR UPON CORRECTION OF THE DEFECTIVE WORK.

3.8.7 IF AT ANY TIME DEFICIENCIES IN THE WORK ARE

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DISCOVERED WHICH ARE FOUND TO HAVE RESULTED FROM FRAUD OR MISREPRESENTATION, OR AN INTENT OR ATTEMPT TO OR CONSPIRACY TO DEFRAUD THE OWNER BY THE CM, ANY CONTRACTOR OR SUPPLIER, THE CM WILL BE LIABLE FOR REPLACEMENT OR CORRECTION OF SUCH WORK AND ANY DAMAGES WHICH OWNER HAS INCURRED RELATED THERETO, REGARDLESS OF THE TIME LIMIT OF ANY GUARANTEE OR WARRANTY.

3.8.8 ANY MATERIALS OR OTHER PORTIONS OF THE WORK, INSTALLED, FURNISHED OR STORED ON SITE WHICH ARE NOT OF THE CHARACTER OR QUALITY REQUIRED BY THE SPECIFICATIONS, OR ARE OTHERWISE NOT ACCEPTABLE TO THE DESIGNER OR THE OWNER, SHALL BE IMMEDIATELY REMOVED AND REPLACED BY THE CM TO THE SATISFACTION OF THE DESIGNER AND OWNER, WHEN NOTIFIED TO DO SO BY THE DESIGNER OR OWNER.

3.8.9 IF THE CM FAILS TO CORRECT DEFECTIVE OR NON CONFORMING WORK AS REQUIRED, OR IF THE CM FAILS TO REMOVE DEFECTIVE OR NON CONFORMING WORK FROM THE SITE, THE OWNER MAY ELECT TO EITHER CORRECT SUCH WORK OR REMOVE AND STORE MATERIALS AND EQUIPMENT AT THE EXPENSE OF THE CM. IF THE CM DOES NOT PAY THE COST OF SUCH REMOVAL AND STORAGE WITHIN TEN (10) DAYS THEREAFTER, THE OWNER MAY UPON TEN (10) ADDITIONAL DAYS WRITTEN NOTICE, SELL SUCH WORK AT AUCTION OR AT PRIVATE SALE AND SHALL ACCOUNT FOR THE NET PROCEEDS THEREOF, AFTER DEDUCTING ALL THE COSTS THAT SHOULD HAVE BEEN BORNE BY THE CM, INCLUDING COMPENSATION FOR THE DESIGNER'S ADDITIONAL SERVICES AND OWNER'S REASONABLE ATTORNEY'S FEES MADE NECESSARY THEREBY. IF SUCH PROCEEDS OF SALE DO NOT COVER ALL COSTS WHICH THE CM SHOULD HAVE BORNE, THE DIFFERENCE SHALL BE CHARGED TO THE CM AND AN APPROPRIATE CHANGE ORDER SHALL BE ISSUED. IF THE PAYMENTS THEN OR THEREAFTER DUE THE CM ARE NOT SUFFICIENT TO COVER SUCH AMOUNT, THE CM SHALL PAY THE DIFFERENCE TO THE OWNER.

3.8.10 THE CM SHALL BEAR THE COST OF MAKING GOOD ALL OF THE WORK OF THE OWNER, SEPARATE CONTRACTORS OR OTHERS, DESTROYED OR DAMAGED BY SUCH CORRECTION OR REMOVAL REQUIRED UNDER THIS SECTION OR ELSEWHERE IN THE CONTRACT DOCUMENTS.

ARTICLE 4
DURATION OF THE CONSTRUCTION MANAGER'S SERVICES

4.1 The duration of the CM's Basic services under this Agreement shall be FROM THE DATE OF THIS AGREEMENT THROUGH THE ISSUANCE OF FINAL PAYMENT. THE CM SHALL PROVIDE ANY WARRANTY PHASE SERVICES AT NO ADDITIONAL COST TO THE OWNER ~~consecutive calendar days from the commencement date~~.

4.1.1 The commencement date for the CM's Basic Services shall be the date of execution of this Agreement by the Owner as stated herein or the date on which the Owner issues to the CM a written instruction to proceed with Basic Services, whichever is earlier.

4.1.2 The CM's Basic Services shall be performed for the periods of time indicated in this Agreement. If portions of design and construction occur simultaneously, some of the phase durations may overlap.

4.1.2.1 The CM's Basic Services during the Pre-Design Phase shall be performed ~~for a period of ____ consecutive calendar days from the commencement date~~ AS REQUIRED DURING THE PRE-DESIGN PHASE.

4.1.2.2 The CM's Basic Services during the Design Phase shall be performed ~~for a period of ____ consecutive calendar days, commencing on _____~~ AS REQUIRED DURING THE DESIGN PHASE.

4.1.2.3 The CM's Basic Services during the Procurement Phase shall be performed for ~~a period of consecutive calendar days, commencing on _____~~ AS REQUIRED DURING THE PROCUREMENT PHASE.

4.1.2.4 The CM's Basic Services during the Construction Phase shall be performed ~~for a period of ____ consecutive calendar days, commencing on _____~~ AS REQUIRED DURING THE CONSTRUCTION PHASE.

4.1.3 The CM's Basic Services during the Post-Construction Phase shall be performed ~~for a period of ____ consecutive calendar days, commencing on _____~~ AS REQUIRED DURING THE POST-CONSTRUCTION PHASE.

4.1.4 THE CM SHALL ACHIEVE SUBSTANTIAL COMPLETION OF THE PROJECT ON OR BEFORE [redacted] UNLESS THE OWNER AND CM AGREE TO A DIFFERENT DATE IN WRITING. THE DATE FOR FINAL COMPLETION SHALL BE THIRTY (30) DAYS AFTER SUBSTANTIAL COMPLETION.

4.2 DELAYS AND EXTENSIONS OF TIME

4.2.1 THE TIME DURING WHICH THE CM OR ANY OF THE CONTRACTORS IS DELAYED IN THE PERFORMANCE OF THE WORK BY THE ISSUANCE OF ANY REQUIRED PERMITS, ACTS OF GOD, EXCESSIVE INCLEMENT WEATHER, FIRES, FLOODS, EPIDEMICS, QUARANTINE RESTRICTIONS, STRIKES, RIOTS, CIVIL COMMOTIONS

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OR FREIGHT EMBARGOES, OR OTHER CONDITIONS BEYOND THE CM'S OR THE CONTRACTORS' CONTROL AND WHICH THE CM OR THE CONTRACTORS COULD NOT REASONABLY HAVE FORESEEN AND PROVIDED AGAINST, EXCEPT FOR DELAYS CAUSED SOLELY BY THE OWNER, DESIGNER OR THEIR CONSULTANTS, SHALL BE ADDED TO THE TIME FOR COMPLETION OF THE WORK STATED IN THE AGREEMENT. NEITHER THE OWNER NOR THE DESIGNER SHALL BE OBLIGATED OR LIABLE TO THE CM OR THE CONTRACTORS FOR INDIRECT OR DIRECT DAMAGES, COSTS OR EXPENSES OF ANY NATURE WHICH THE CM, THE CONTRACTORS, OR ANY OTHER PERSON MAY INCUR AS A RESULT OF ANY OF THE DELAYS, INTERFERENCES, OR CHANGES IN SEQUENCE IN THE WORK INCLUDED IN THIS SECTION 4.2.1. THE CM HEREBY EXPRESSLY WAIVES ANY CLAIMS AGAINST THE OWNER AND THE DESIGNER ON ACCOUNT OF ANY INDIRECT OR DIRECT DAMAGES, LOST PROFITS, COSTS OR EXPENSES OF ANY NATURE WHICH THE CM, THE CONTRACTORS OR ANY OTHER PERSON MAY INCUR AS A RESULT OF ANY DELAYS, INTERFERENCES, CHANGES IN SEQUENCE OR THE LIKE, AND IT IS UNDERSTOOD AND AGREED THAT THE CM'S SOLE AND EXCLUSIVE REMEDY IN ANY SUCH EVENTS SHALL BE AN EXTENSION OF THE CONTRACT TIME IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

4.2.2 IN THE EVENT PROJECT DELAYS ARISE FROM OR OUT OF ANY ACT OR OMISSION OF THE OWNER, DESIGNER OR THEIR CONSULTANTS, THE TIME DURING WHICH THE PROJECT IS DELAYED SHALL BE ADDED TO THE AGREEMENT AND THE CM MAY BE REIMBURSED FOR ITS DIRECT PROJECT DAMAGES, EXCLUDING GENERAL OVERHEAD EXPENSES AND INDIRECT COSTS, IF THE CM STRICTLY COMPLIES WITH THIS ARTICLE 4.2. NOTWITHSTANDING THE PREVIOUS SENTENCE, IF THE CM, A CONTRACTOR AND/OR SUBCONTRACTOR IN ANY WAY SHARES IN RESPONSIBILITY FOR THE DELAY, NEITHER THE OWNER NOR THE DESIGNER SHALL BE OBLIGATED OR LIABLE TO THE CM OR THE CONTRACTORS FOR INDIRECT OR DIRECT DAMAGES, COSTS OR EXPENSES OF ANY NATURE WHICH THE CM, THE CONTRACTORS, OR ANY OTHER PERSON MAY INCUR AS A RESULT OF ANY OF THE DELAYS, INTERFERENCES, CHANGES IN SEQUENCE OF THE WORK, AND THE CM'S SOLE REMEDY, IF ANY, SHALL BE AN EXTENSION OF THE CONTRACT TIME.

4.2.3 IN THE EVENT PROJECT DELAYS ARISE SOLELY FROM OR OUT OF ANY ACT OR OMISSION OF THE CM, CONTRACTORS, SUBCONTRACTORS OR THEIR AGENTS, THE CM SHALL NOT BE ENTITLED TO EXTENSION OF THE CONTRACT TIME AND SHALL BE SUBJECT TO THE PAYMENT OF LIQUIDATED DAMAGES AS PROVIDED IN THIS AGREEMENT.

4.2.4 THE CONTRACT TIME SHALL BE ADJUSTED ONLY FOR CHANGES AUTHORIZED PURSUANT TO THIS AGREEMENT, SUSPENSION OR THE WORK BY THE OWENR, AND EXCUSABLE DELAYS PURSUNAT TO SECTION 4.2.4.2. IN THE EVENT THE CM REQUESTS AN EXTENSION OF THE CONTRACT TIME OR FILES A CLAIM RELATED TO ANY FORM OF DELAY, IT SHALL FURNISH SUCH JUSTIFICATION AND SUPPORTING EVIDENCE AS THE OWNER MAY DEEM NECESSARY FOR A DETERMINATION OF WHETHER OR NOT THE CM IS ENTITLED TO AN EXTENSION OF TIME UNDER THE PROVISIONS OF THE CONTRACT, AND SHALL FURTHER OUTLINE THE ALLEGED IMPACT ON THE SCHEDULE'S CRITICAL PATH. THE BURDEN OF PROOF TO SUBSTANTIATE A CLAIM SHALL REST WITH THE CM, INCLUDING EVIDENCE THAT THE CAUSE WAS BEYOND ITS CONTROL. THE OWNER SHALL BASE ITS FINDINGS OF FACT AND DECISION ON SUCH JUSTIFICATION AND SUPPORTING EVIDENCE, INCLUDING A FINDING THAT THE ALLEGED DELAY IMPACTED THE PROJECT'S CRITICAL PATH, AND SHALL ADVISE THE CM IN WRITING THEREOF. IF THE OWNER FINDS THAT THE CM IS ENTITLED TO ANY EXTENSION OF THE CONTRACT TIME, THE OWNER'S DETERMINATION OF THE TOTAL NUMBER OF DAYS EXTENSION SHALL BE BASED UPON THE CURRENTLY APPROVED PROGRESS SCHEDULE AND ON ALL DATA RELEVANT TO THE EXTENSION. SUCH DATA WILL BE INCORPORATED INTO THE SCHEDULE IN THE FORM OF A REVISION THERETO, ACCOMPLISHED IN A TIMELY MANNER. THE CM ACKNOWLEDGES AND AGREES THAT ACTUAL DELAYS (DUE TO SAID CHANGES, SUSPENSION OF WORK OR EXCUSABLE DELAYS) IN ACTIVITIES WHICH, ACCORDING TO THE SCHEDULE, DO NOT AFFECT THE CONTRACT TIME, DO NOT HAVE ANY EFFECT UPON THE CONTRACT TIME AND THEREFORE WILL NOT BE THE BASIS FOR A CHANGE THEREIN. THE CM ACKNOWLEDGES AND AGREES THAT TIME EXTENSIONS WILL BE GRANTED ONLY TO THE EXTENT THAT EXCUSABLE DELAYS EXCEED THE AVAILABLE FLOAT IN THE CRITICAL PATH ACTIVITIES IN THE CURRENTLY APPROVED SCHEDULE.

4.2.4.1 EXTENSIONS IN THE CONTRACT TIME BY CHANGE ORDERS ARE SUBJECT TO EXTENSION-IN-TIME AUDIT BY THE OWNER AS FOLLOWS:

4.2.4.1.1 THE CM AGREES THAT, EVEN THOUGH THE OWNER, CM AND DESIGNER HAVE PREVIOUSLY SIGNED A CHANGE ORDER CONTAINING AN EXTENSION-IN-TIME RESULTING FROM A CHANGE IN OR ADDITION TO THE WORK THAT SAID EXTENSION IN THE CONTRACT TIME MAY BE ADJUSTED BY AN AUDIT AFTER THE FACT BY THE OWNER. IF SUCH AN AUDIT IS TO BE MADE, THE OWNER MUST UNDERTAKE THE AUDIT AND MAKE A RULING WITHIN 30 DAYS AFTER THE COMPLETION OF THE WORK UNDER THE CHANGE ORDER.

4.2.4.1.2 THE CM AGREES THAT ANY EXTENSION OF THE CONTRACT TIME TO WHICH IT IS ENTITLED ARISING OUT OF A CHANGE ORDER UNDERTAKEN ON A FORCE ACCOUNTING (LABOR AND MATERIALS) BASIS, SHALL BE DETERMINED BY AN EXTENSION-IN-TIME AUDIT BY THE OWNER AFTER THE WORK OF THE CHANGE ORDER IS COMPLETED. SUCH RULINGS SHALL BE MADE BY THE OWNER WITHIN 30 DAYS AFTER A REQUEST FOR SAME IS MADE BY THE CM OR DESIGNER, EXCEPT SAID 30 DAYS WILL NOT START UNTIL THE WORK UNDER THE CHANGE ORDER IS COMPLETED.

4.2.4.1.3 SHOULD A TIME EXTENSION BE GRANTED FOR SUBSTANTIAL COMPLETION THE DATE FOR FINAL COMPLETION SHALL BE APPROPRIATELY ADJUSTED UNLESS SPECIFICALLY STATED OTHERWISE.

4.2.4.2 SUBJECT TO OTHER PROVISIONS OF THE CONTRACT, THE CM MAY BE ENTITLED TO AN EXTENSION OF THE CONTRACT TIME (BUT NO INCREASE IN THE GMP) FOR DELAYS ARISING FROM UNFORESEEABLE CAUSES BEYOND THE CONTROL AND

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WITHOUT THE FAULT OR NEGLIGENCE OF THE CM, THE CONTRACTORS OR SUPPLIERS AS FOLLOWS:

4.2.4.2.1 LABOR DISPUTES AND STRIKES (INCLUDING STRIKES AFFECTING TRANSPORTATION), THAT DO, IN FACT, DIRECTLY DELAY THE PROGRESS OF THE WORK ON THE CRITICAL PATH; HOWEVER, AN EXTENSION OF CONTRACT TIME ON ACCOUNT OF AN INDIVIDUAL LABOR STRIKE SHALL NOT EXCEED THE NUMBER OF DAYS OF SAID STRIKE;

4.2.4.2.2 ACTS OF GOD: TORNADO, FIRE, HURRICANE, BLIZZARD, EARTHQUAKE, OR FLOOD THAT DAMAGE COMPLETED WORK OR STORED MATERIALS AND AFFECTING THE CRITICAL PATH;

4.2.4.2.3 EXCESSIVE INCLEMENT WEATHER; HOWEVER, THE CONTRACT TIME WILL NOT BE EXTENDED DUE TO REASONABLY ANTICIPATED INCLEMENT WEATHER OR FOR DELAYS IN THE AFTERMATH OF INCLEMENT WEATHER, REASONABLY ANTICIPATED OR EXCESSIVE, THE TIME FOR PERFORMANCE OF THIS CONTRACT, AS STATED IN THIS AGREEMENT, INCLUDES AN ALLOWANCE FOR CALENDAR DAYS WHICH MAY NOT BE AVAILABLE FOR CONSTRUCTION OUT-OF-DOORS; FOR THE PURPOSES OF THIS CONTRACT, THE CM AGREES THAT THE NUMBER OF CALENDAR DAYS PER MONTH STATED BELOW ARE TO BE CONSIDERED REASONABLY ANTICIPATED INCLEMENT WEATHER AND PLANNED FOR IN THE CONSTRUCTION SCHEDULE. UNLESS THE CM CAN SUBSTANTIATE TO THE SATISFACTION OF THE OWNER THAT THERE WAS GREATER THAN THE REASONABLY ANTICIPATED INCLEMENT WEATHER CONSIDERING THE TIME FROM THE NOTICE-TO-PROCEED UNTIL THE BUILDING IS ENCLOSED USING DATA FROM THE NATIONAL WEATHER SERVICE STATION AT ILM AIRPORT OR A WEATHER STATION ACCEPTABLE TO THE OWNER AND THAT SUCH ALLEGED GREATER THAN REASONABLY ANTICIPATED INCLEMENT WEATHER ACTUALLY DELAYED THE WORK OR PORTIONS THEREOF WHICH HAD AN EFFECT UPON THE CONTRACT TIME, THE CM SHALL NOT BE ENTITLED TO AN EXTENSION OF TIME.

FOR THE PURPOSE OF THIS CONTRACT, THE CM AGREES TO ANTICIPATE AND PLAN FOR INCLEMENT WEATHER FOR THE NUMBER OF CALENDAR DAYS IN ACCORDANCE WITH THE FOLLOWING TABLE:

	PLANNED DAYS/MONTH
JAN	8
FEB	8
MAR	8
APR	7
MAY	8
JUN	8
JUL	10
AUG	9
SEP	8
OCT	6
NOV	7
DEC	8

ALSO THE CM AGREES THAT THE CALCULATION OF THE NUMBER OF EXCESSIVE INCLEMENT WEATHER DAYS SHALL BE THE NUMBER OF DAYS IN EXCESS OF THOSE SHOWN FOR EACH MONTH IN THE TABLE ABOVE, IN WHICH PRECIPITATION EXCEEDED .10 INCH, OR IN WHICH THE HIGHEST TEMPERATURE WAS 32 DEGREES F. OR LESS AS RECORDED AT THE APPROVED WEATHER STATION. RAIN DAYS FROM HURRICANES NOT CAUSING DAMAGE IN NEW HANOVER COUNTY SHALL BE DEEMED INCLEMENT WEATHER DAYS.

IF THE TOTAL ACCUMULATED NUMBER OF CALENDAR DAYS LOST TO EXCESSIVE INCLEMENT WEATHER, FROM THE NOTICE-TO-PROCEED UNTIL THE BUILDING IS ENCLOSED, EXCEEDS THE TOTAL ACCUMULATED NUMBER TO BE REASONABLY ANTICIPATED FOR THE SAME PERIOD FROM THE TABLE ABOVE, TIME FOR COMPLETION WILL BE EXTENDED BY THE NUMBER OF CALENDAR DAYS NEEDED TO INCLUDE THE EXCESS NUMBER OF CALENDAR DAYS LOST. NO EXTENSION OF TIME WILL BE MADE FOR DAYS DUE TO EXCESSIVE INCLEMENT WEATHER OCCURRING AFTER THE BUILDING IS ENCLOSED. FOR THE PURPOSE OF THIS CONTRACT, THE TERM "ENCLOSED" IS DEFINED TO MEAN WHEN THE BUILDING IS SUFFICIENTLY ROOFED AND SEALED, EITHER TEMPORARILY OR PERMANENTLY, TO PERMIT THE STRUCTURE TO BE HEATED AND THE PLASTERING AND DRY-WALL TRADES TO WORK. THE DESIGNER SHALL DETERMINE WHEN THE STRUCTURE IS "ENCLOSED". UPON THE REQUEST OF EITHER PARTY, THE DESIGNER SHALL ISSUE A LETTER CERTIFYING TO THE OWNER, WITH A COPY TO THE CM, STATING THE DATE THE BUILDING BECAME ENCLOSED. NO CHANGE IN GMP WILL BE AUTHORIZED BECAUSE OF ADJUSTMENT OF CONTRACT TIME DUE TO EXCESSIVE INCLEMENT WEATHER; AND

4.2.4.2.4 DELAYS IN THE ISSUANCE OF A REQUIRED PERMIT, ACTS OF THE PUBLIC ENEMY, ACTS OF THE STATE, FEDERAL OR LOCAL GOVERNMENT IN ITS SOVEREIGN CAPACITY, AND ACTS OF ANOTHER CONTRACTOR IN THE PERFORMANCE OF A CONTRACT WITH THE OWNER RELATING TO THE PROJECT.

4.2.5 IF THE CM SHALL NEGLECT, FAIL OR REFUSE TO COMPLETE THE WORK WITHIN THE TIME HEREIN SPECIFIED, OR ANY PROPER EXTENSION THEREOF GRANTED BY THE OWNER, THEN THE CM DOES HEREBY AGREE, AS A PART CONSIDERATION FOR THE AWARDING OF THIS CONTRACT, TO PAY THE OWNER THE AMOUNT SPECIFIED IN THE CONTRACT, NOT AS A PENALTY BUT AS LIQUIDATED DAMAGES FOR SUCH BREACH OF CONTRACT AS HEREINAFTER SET FORTH. FOR EACH AND EVERY CALENDAR DAY THAT THE CM SHALL BE IN DEFAULT AFTER THE TIME STIPULATED IN THE CONTRACT FOR COMPLETING THE WORK. THE SAID AMOUNT IS FIXED AND AGREED UPON BY AND BETWEEN THE CM AND THE OWNER BECAUSE OF THE IMPRACTICABILITY AND EXTREME DIFFICULTY OF FIXING AND ASCERTAINING THE ACTUAL DAMAGES THE OWNER WOULD IN SUCH EVENT SUSTAIN, AND SAID AMOUNT IS AGREED TO BE THE AMOUNT OF DAMAGES WHICH THE OWNER WOULD SUSTAIN AND SAID AMOUNT SHALL BE RETAINED FROM TIME TO TIME BY THE OWNER FROM CURRENT PERIODICAL ESTIMATES.

4.2.6 THE CM AND THE CONTRACTORS SHALL NOT BE ENTITLED TO AND HEREBY EXPRESSLY WAIVE ANY EXTENSION OF TIME RESULTING FROM ANY CONDITION OR CAUSE UNLESS SAID CLAIM FOR EXTENSIONS OF TIME IS MADE IN WRITING TO THE OWNER WITHIN TEN (10) DAYS OF THE FIRST INSTANCE OF DELAY FOR ALL

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DELAYS, EXCEPT EXCESSIVE INCLEMENT WEATHER WHICH SHALL BE MADE IN WRITING TO THE OWNER WITHIN FORTY-FIVE (45) DAYS AFTER THE DATE THE STRUCTURE IS ENCLOSED. CIRCUMSTANCES AND ACTIVITIES LEADING TO SUCH CLAIM SHALL BE INDICATED OR REFERENCED IN A DAILY FIELD INSPECTION REPORT FOR THE DAY(S) AFFECTED. IN EVERY SUCH WRITTEN CLAIM, THE CM SHALL PROVIDE THE FOLLOWING INFORMATION:

4.2.6.1 NATURE OF THE DELAY;

4.2.6.2 DATE (OR ANTICIPATED DATE) OF COMMENCEMENT OF DELAY;

4.2.6.3 ACTIVITIES ON THE PROGRESS SCHEDULE AFFECTED BY THE DELAY, AND/OR NEW ACTIVITIES CREATED BY THE DELAY AND THEIR RELATIONSHIP WITH EXISTING ACTIVITIES;

4.2.6.4 IDENTIFICATION OF PERSON(S) OR ORGANIZATION(S) OR EVENT(S) RESPONSIBLE FOR THE DELAY;

4.2.6.5 ANTICIPATED EXTENT OF THE DELAY; AND

4.2.6.6 RECOMMENDED ACTION TO AVOID OR MINIMIZE THE DELAY.

4.2.7 IF NO SCHEDULE OR AGREEMENT IS MADE STATING THE DATES UPON WHICH WRITTEN INTERPRETATIONS SHALL BE FURNISHED, THEN NO CLAIM FOR DELAY SHALL BE ALLOWED ON ACCOUNT OF FAILURE TO FURNISH SUCH INTERPRETATIONS UNTIL TWENTY (20) DAYS AFTER REQUEST IS MADE FOR THEM, AND NOT THEN UNLESS SUCH CLAIM IS REASONABLE.

4.2.8 NO CLAIM BY THE CM FOR AN EXTENSION OF TIME FOR DELAYS WILL BE CONSIDERED UNLESS MADE IN STRICT COMPLIANCE WITH THE REQUIREMENTS OF THIS ARTICLE. ALL CLAIMS NOT FILED IN ACCORDANCE WITH THIS PARAGRAPH SHALL BE WAIVED BY THE CM.

ARTICLE 5
CHANGES IN THE CONSTRUCTION MANAGER'S BASIC SERVICES AND ADDITIONAL COMPENSATION

5.1 ~~Owner~~ Changes - PRECONSTRUCTION BASIC SERVICES

5.1.1 The Owner, without invalidating this Agreement, may make changes in the CM's Basic Services specified in PARAGRAPH 3.2, 3.3 AND 3.4 ~~3~~ of this Agreement. The CM shall promptly notify the Owner of changes which increase or decrease the CM's compensation, the duration of the CM's Basic Services, or both.

5.1.2 Additional Compensation and Extended Duration

The CM shall be entitled to receive additional compensation and additional time when the scope of ~~Basic Services~~ PARAGRAPHS 3.2, 3.3 AND 3.4 is increased or extended through no fault of the CM. If the scope of THESE Basic Services is increased or the duration of the CM's THESE Basic Services is extended or the duration of the Basic Services to be performed within a phase duration specified in Article 4 is extended, the CM shall be entitled to receive additional compensation, and the duration of the Agreement shall be extended. A written request for additional compensation shall be given by the CM to the Owner within ~~thirty (30)~~ TEN (10) days of the occurrence of the event giving rise to such request. The amount of additional compensation to be paid and the amount of extension of the duration of this Agreement shall be determined on the basis of the CM's cost, a customary and reasonable adjustment in the CM's fixed or lump sum fee consistent with the provisions of Article ~~7~~ THIS AGREEMENT, and a determination of the length of the extensions of the duration of this Agreement.

5.1.3 Changes in the CM's Basic Services

Changes in the CM's Basic Services IN PARAGRAPHS 3.2, 3.3 AND 3.4 and entitlement to additional compensation shall be made by a written ~~amendment~~ CHANGE ORDER to this Agreement executed by the Owner and the CM. The ~~amendment~~ CHANGE ORDER shall be executed by the Owner and CM prior to the CM performing the services required by the ~~amendment~~ CHANGE ORDER. The CM shall proceed to perform the services required by the ~~amendment~~ CHANGE ORDER only after receiving notice directing the CM to proceed. THE CM SHALL NOT BE ENTITLED TO COMPENSATION FOR WORK PERFORMED WITHOUT A WRITTEN CHANGE ORDER.

5.1.4 Payment of Additional Compensation

The CM shall submit invoices for additional compensation with its invoice for Basic Services and payment shall be made pursuant to the provisions of Article 7 of this Agreement.

5.2 CHANGES TO THE WORK OR CONSTRUCTION PHASE BASIC SERVICES

THE OWNER MAY, AT ANY TIME, BY WRITTEN ORDER DESIGNATED OR INDICATED TO BE A CHANGE ORDER, MAKE ANY CHANGE OR MODIFICATION IN THE WORK OR ADD TO THE WORK WITHIN THE GENERAL SCOPE OF THE CONTRACT, INCLUDING, BUT NOT LIMITED TO CHANGES: (1) IN THE SPECIFICATIONS OR DRAWINGS; (2) IN THE SEQUENCE, METHOD OR MANNER OF PERFORMANCE OF THE WORK; (3) IN THE OWNER-FURNISHED FACILITIES, EQUIPMENT, MATERIALS, SERVICES OR SITE; OR (4) DIRECTING ACCELERATION IN THE PERFORMANCE OF THE WORK.

THE PARTIES AGREE THAT NOTWITHSTANDING ANY LANGUAGE TO THE CONTRARY IN PARAGRAPHS 5.2.1 THROUGH 5.2.4, THE CM'S FEE ON ANY ADDITIONAL WORK AND THE FEE REDUCTION FOR ANY WORK OR ALLOWANCES REMOVED FROM THE SCOPE OF WORK SHALL BE BASED ON THE SAME PERCENTAGE FEE SPECIFIED IN PARAGRAPH 7.4.1, UNLESS THE CM PERFORMS THE WORK WITH ITS OWN FORCES AS ALLOWED IN THIS AGREEMENT. THE PARTIES AGREE THAT PARAGRAPHS 5.2.1.1 THROUGH 5.2.1.3 ARE INTENDED TO GOVERN PAYMENT TO THE CONTRACTORS AND THEIR SUBCONTRACTORS FOR PERFORMING WORK ASSOCIATED WITH A CHANGE, UNLESS THE CM PERFORMS THE WORK WITH ITS OWN FORCES AS ALLOWED IN THIS AGREEMENT. IF THE CM PERFORMS THE WORK WITH ITS OWN FORCES, THE CM SHALL ALSO BE REFERRED TO BY THE TERM "CONTRACTOR" IN PARAGRAPHS 5.2.1.1 THROUGH 5.2.1.3. THE PARTIES SPECIFICALLY AGREE THAT ANY ADJUSTMENT TO THE AMOUNT THAT COULD BE REIMBURSED FOR GENERAL CONDITIONS, IF ANY,

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SHALL BE NEGOTIATED IN GOOD FAITH BETWEEN THE PARTIES BASED UPON THE ADDITIONAL WORK ACTUALLY REQUIRED TO BE PERFORMED BY THE CM AS A RESULT OF THE CHANGE.

5.2.1 OWNER DIRECTED CHANGES TO THE WORK REQUIRING AN INCREASE IN GMP

IF THE CHANGE IN OR ADDITION TO THE WORK WILL RESULT IN AN INCREASE IN THE GUARANTEED MAXIMUM PRICE, THE OWNER SHALL HAVE THE RIGHT TO REQUIRE THE PERFORMANCE THEREOF ON A LUMP SUM BASIS, A UNIT PRICE BASIS OR A TIME AND MATERIAL BASIS, ALL AS HEREINAFTER MORE PARTICULARLY DESCRIBED (THE RIGHT OF THE OWNER AS AFORESAID SHALL APPLY WITH RESPECT TO EACH SUCH CHANGE IN THE WORK).

5.2.1.1 IF THE OWNER ELECTS TO HAVE THE CHANGE IN THE WORK PERFORMED ON A LUMP SUM BASIS, ITS ELECTION SHALL BE BASED ON A LUMP SUM PROPOSAL WHICH SHALL BE SUBMITTED BY THE CM TO THE OWNER WITHIN TEN (10) DAYS OF THE CM'S RECEIPT OF A REQUEST THEREFOR (BUT THE OWNER'S REQUEST FOR A LUMP SUM PROPOSAL SHALL NOT BE DEEMED AN ELECTION BY THE OWNER TO HAVE THE CHANGE IN THE WORK PERFORMED ON A LUMP SUM BASIS). THE CM'S PROPOSAL SHALL BE ITEMIZED AND SEGREGATED BY LABOR AND MATERIALS FOR THE VARIOUS COMPONENTS OF THE CHANGE IN OR ADDITION TO THE WORK (NO AGGREGATE LABOR TOTAL WILL BE ACCEPTABLE) AND SHALL BE ACCOMPANIED BY SIGNED PROPOSALS OF ANY CONTRACTORS WHO WILL PERFORM ANY PORTION OF THE CHANGE IN, OR ADDITION TO, THE WORK AND OF ANY PERSONS WHO WILL FURNISH MATERIALS OR EQUIPMENT FOR INCORPORATION THEREIN. THE PROPOSAL SHALL ALSO INCLUDE THE CM'S ESTIMATE OF THE TIME REQUIRED TO PERFORM SAID CHANGES OR ADDITIONAL WORK.

5.2.1.1.1 THE PORTION OF THE PROPOSAL RELATING TO LABOR, BY THE FORCES OF ANY OF THE CONTRACTORS, MAY INCLUDE: REASONABLY ANTICIPATED GROSS WAGES OF JOB SITE LABOR, INCLUDING FOREMEN, WHO WILL BE DIRECTLY INVOLVED IN THE CHANGE IN THE WORK (FOR SUCH TIME AS THEY WILL BE SO INVOLVED), PLUS PREMIUM COSTS OF OVERTIME TIME, IF OVERTIME IS ANTICIPATED; A MAXIMUM LABOR BURDEN OF THIRTY NINE PERCENT (39%) OF THE ACTUAL COST OF LABOR BY ANY SUCH CONTRACTOR IN CONNECTION WITH SUCH LABOR; AND UP TO FIFTEEN PERCENT (15%) OF SUCH ANTICIPATED GROSS WAGES, AS OVERHEAD AND PROFIT FOR ANY SUCH CONTRACTOR, AS APPLICABLE (SAID OVERHEAD AND PROFIT TO INCLUDE ALL EXTENDED GENERAL CONDITIONS AND SUPERVISION, BUT IT SHALL NOT INCLUDE THE LABOR BURDEN).

5.2.1.1.2 THE PORTION OF THE PROPOSAL RELATING TO MATERIALS MAY INCLUDE THE REASONABLY ANTICIPATED DIRECT COSTS TO THE CONTRACTOR OR TO ANY OF ITS SUBCONTRACTORS OF MATERIALS TO BE PURCHASED FOR INCORPORATION IN THE CHANGE IN THE WORK, PLUS TRANSPORTATION AND APPLICABLE SALES AND USE TAXES AND UP TO FIFTEEN PERCENT (15%) OF SAID DIRECT MATERIAL COSTS AS OVERHEAD AND PROFIT FOR THE CONTRACTOR OR ANY OF ITS SUBCONTRACTORS (SAID OVERHEAD AND PROFIT TO INCLUDE ALL SMALL TOOLS), AND MAY FURTHER INCLUDE THE CONTRACTOR'S AND ANY OF ITS SUBCONTRACTOR'S REASONABLY ANTICIPATED RENTAL COSTS IN CONNECTION WITH THE CHANGE IN THE WORK (EITHER ACTUAL OR DISCOUNTED LOCAL PUBLISHED RATES), PLUS UP TO EIGHT PERCENT (8%) THEREOF AS OVERHEAD AND PROFIT FOR ANY OF THE CONTRACTORS, AS APPLICABLE (SAID OVERHEAD AND PROFIT TO INCLUDE ALL EXTENDED GENERAL CONDITIONS AND SUPERVISION, EXCEPT IT SHALL NOT BE APPLIED TO ANY SALES TAX PAID FOR ANY PURPOSE OR SHIPPING COSTS INCURRED BY THE CONTRACTOR OR ANY SUBCONTRACTOR). IF ANY OF THE ITEMS INCLUDED IN THE LUMP SUM PROPOSAL ARE COVERED BY UNIT PRICES CONTAINED IN THE CONTRACT DOCUMENTS, THE OWNER MAY, IF IT REQUIRES THE CHANGE IN THE WORK TO BE PERFORMED ON A LUMP SUM BASIS, ELECT TO USE THESE UNIT PRICES IN LIEU OF THE SIMILAR ITEMS INCLUDED IN THE LUMP SUM PROPOSAL, IN WHICH EVENT AN APPROPRIATE DEDUCTION WILL BE MADE IN THE LUMP SUM AMOUNT PRIOR TO THE APPLICATION OF ANY ALLOWED OVERHEAD AND PROFIT PERCENTAGES. NO OVERHEAD AND PROFIT SHALL BE APPLIED TO ANY UNIT PRICES.

5.2.1.1.3 THE CM SHALL PROVIDE ANY DOCUMENTATION THAT MAY BE REQUESTED BY THE OWNER TO SUPPORT THE CHANGE PROPOSAL, INCLUDING PAYROLL RECORDS, INSURANCE RATES, MATERIAL QUOTES OR RENTAL QUOTES. THE CM SHALL ALSO PROVIDE AN ITEMIZED BREAKDOWN OF ALL TRANSPORTATION AND SHIPPING COSTS, INCLUDING RECEIPTS DOCUMENTING THE EXPENSES.

5.2.1.1.4 THE LUMP SUM PROPOSAL MAY INCLUDE UP TO EIGHT PERCENT (8%) OF THE AMOUNT WHICH THE CONTRACTOR WILL PAY TO ANY OF ITS SUBCONTRACTORS FOR THE CHANGE IN THE WORK AS A COMMISSION TO THE CONTRACTOR. THE CHANGE PROPOSAL FORM ATTACHED TO THIS AGREEMENT AS APPENDIX B-2 SHALL BE USED TO SUBMIT THE CHANGE PROPOSAL TO THE OWNER.

5.2.1.1.5 IN THE EVENT THAT THE CM FAILS TO SUBMIT HIS PROPOSAL WITHIN THE DESIGNATED PERIOD, THE OWNER MAY ORDER THE CM TO PROCEED WITH THE CHANGE OR ADDITION TO THE WORK AND THE CM SHALL SO PROCEED. THE OWNER SHALL UNILATERALLY DETERMINE THE REASONABLE COST AND TIME TO PERFORM THE WORK IN QUESTION, WHICH DETERMINATION SHALL BE FINAL AND BINDING UPON THE CM.

5.2.1.1.6 IN THE EVENT THAT THE PARTIES ARE UNABLE TO AGREE AS TO THE REASONABLE COST AND TIME TO PERFORM THE CHANGE IN OR ADDITION TO THE WORK BASED UPON THE CM'S PROPOSAL AND THE OWNER DOES NOT ELECT TO HAVE THE CHANGE IN THE WORK PERFORMED ON A TIME AND MATERIAL BASIS, THE OWNER MAY CHOOSE TO MAKE A DETERMINATION OF THE REASONABLE COST AND TIME TO PERFORM THE CHANGE IN THE WORK, BASED UPON THEIR OWN ESTIMATES, THE CM'S SUBMISSION OR A COMBINATION THEREOF, EXCEPT FOR A CHANGE ORDER INITIALLY ESTABLISHING THE GMP FOR THE PROJECT OR INITIALLY ESTABLISHING A PARTIAL GMP FOR A

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PORTION OF THE WORK INCLUDED IN THE ORIGINAL PROJECT SCOPE, A CHANGE ORDER SHALL BE ISSUED IN THIS CASE FOR THE AMOUNTS OF COST AND TIME DETERMINED BY THE OWNER AND SHALL BECOME BINDING UPON THE CM UNLESS THE CM SUBMITS ITS PROTEST IN WRITING TO THE OWNER WITHIN THIRTY (30) DAYS OF THE ISSUANCE OF THE CHANGE ORDER. OWNER HAS THE RIGHT TO DIRECT IN WRITING THE CM TO PERFORM THE CHANGE IN THE WORK, WHICH IS THE SUBJECT OF SUCH CHANGE ORDER. FAILURE OF THE PARTIES TO REACH AGREEMENT REGARDING THE COST AND TIME OF THE PERFORMING THE CHANGE IN THE WORK AND/OR ANY PENDING PROTEST, SHALL NOT RELIEVE THE CM FROM PERFORMING THE CHANGE IN THE WORK PROMPTLY AND EXPEDITIOUSLY.

5.2.1.1.7 THE OWNER RESERVES THE RIGHT TO REJECT THE CM'S PROPOSAL FOR A CHANGE IN THE WORK AND TO ELECT TO PERFORM SAID WORK USING A SEPARATE CONTRACTOR. UNDER SUCH CIRCUMSTANCES, THE CM SHALL COORDINATE THE PERFORMANCE OF THE WORK.

5.2.1.2 IF THE OWNER ELECTS TO HAVE THE CHANGE IN THE WORK PERFORMED ON A TIME AND MATERIAL BASIS, THE SAME SHALL BE PERFORMED, BY THE FORCES OF ANY OF THE CONTRACTORS, AT ACTUAL COST TO THE ENTITY PERFORMING THE CHANGE IN THE WORK. THE CHANGE PROPOSAL FORM ATTACHED AS APPENDIX B-1 SHALL BE USED TO SUBMIT THE INITIAL CHANGE PROPOSAL TO THE OWNER FOR APPROVAL TO PROCEED. THE CM SHALL MAINTAIN RECORDS TO SUBMIT TO THE OWNER SUCH AS DAILY TIME AND MATERIAL TICKETS, TO INCLUDE THE IDENTIFICATION NUMBER ASSIGNED TO THE CHANGE IN THE WORK, THE LOCATION AND DESCRIPTION OF THE CHANGE IN THE WORK, THE CLASSIFICATION OF LABOR EMPLOYED (AND NAMES AND EMPLOYEE NUMBERS), THE MATERIALS USED, THE EQUIPMENT RENTED (NOT TOOLS) AND SUCH OTHER EVIDENCE OF COST AS THE OWNER MAY REQUIRE. THE OWNER MAY REQUIRE AUTHENTICATION OF ALL TIME AND MATERIAL TICKETS AND INVOICES BY PERSONS DESIGNATED BY THE OWNER FOR SUCH PURPOSE. THE FAILURE OF THE CM TO SECURE ANY REQUIRED AUTHENTICATION SHALL, IF THE OWNER ELECTS TO TREAT IT AS SUCH, CONSTITUTE A WAIVER BY THE CM OF ANY CLAIM FOR THE COST OF THAT PORTION OF THE CHANGE IN THE WORK COVERED BY A NON-AUTHENTICATED TICKET OR INVOICE; PROVIDED, HOWEVER THAT THE AUTHENTICATION OF ANY SUCH TICKET OR INVOICE BY THE OWNER SHALL NOT CONSTITUTE AN ACKNOWLEDGMENT BY THE OWNER THAT THE ITEMS THEREON WERE REASONABLY REQUIRED FOR THE CHANGE IN THE WORK.

THE CHANGE PROPOSAL FORM ATTACHED AS APPENDIX B-2 SHALL BE USED TO SUBMIT THE FINAL CHANGE PROPOSAL TO THE OWNER AFTER THE WORK IS COMPLETE. THE FINAL CHANGE PROPOSAL SHALL DOCUMENT ALL COSTS AND EXPENSES. APPENDIX B-2 SHALL BE FILLED OUT IN ACCORDANCE WITH THE INSTRUCTIONS IN PARAGRAPH 5.2.1.1, AND ITS SUBPARAGRAPHS.

5.2.1.3 CHANGES IN THE WORK TO BE COMPLETED ON A UNIT PRICE BASIS SHALL BE QUANTIFIED BY THE DESIGNER OR AN INDEPENDENT THIRD PARTY AND SHALL BE COMPLETED AT AN ALL INCLUSIVE RATE ESTABLISHED IN THE BID PROPOSAL, UNLESS A MUTUALLY AGREED UPON PRICE IS ESTABLISHED BY THE OWNER AND CM. THE UNIT PRICES INCLUDE THE COST OF ALL MATERIALS, TAXES, SHIPPING AND DELIVERY CHARGES, LABOR AND LABOR BURDEN, INSURANCE, SUPERVISION, OVERHEAD AND PROFIT. TIME TO COMPLETE ANY WORK DONE ON A UNIT PRICE BASIS FOR QUANTITIES WITHIN THE BASE BID ALLOWANCE AMOUNT IS INCLUDED IN THE BASE BID. THE UNIT PRICE DOES NOT INCLUDE BONDS. PROCEDURES FOR QUANTIFYING UNITS OF MEASURE SHALL BE PROPOSED BY THE DESIGNER AND AGREED TO BY THE CM AND OWNER PRIOR TO THE COMMENCEMENT OF THE WORK TO BE COMPLETED ON A UNIT BASE PRICE. WORK PERFORMED WITHOUT SUCH AGREEMENT IN PLACE SHALL BE DEEMED TO HAVE BEEN DONE AT THE SOLE RISK AND EXPENSE OF THE CM. TIME FOR QUANTITIES EXCEEDING THE BASE BID ALLOWANCE WILL BE EVALUATED BASED ON THE EFFECT OF THE CHANGE IN THE WORK ON THE CRITICAL PATH OF THE PROJECT.

5.2.1.3.1 NO OVERHEAD AND PROFIT WILL BE PAID BY THE OWNER ON ACCOUNT OF A CHANGE IN THE WORK EXCEPT AS SPECIFICALLY PROVIDED IN THIS SECTION. OVERHEAD AND PROFIT, AS ALLOWED IN THIS SECTION, SHALL BE DEEMED TO INCLUDE ALL COSTS AND EXPENSES WHICH THE CM OR ANY OF THE CONTRACTORS MAY INCUR IN THE PERFORMANCE OF A CHANGE IN THE WORK AND WHICH ARE NOT OTHERWISE SPECIFICALLY RECOVERABLE BY THEM PURSUANT TO THIS SECTION.

5.2.1.4 THE OWNER MAY DIRECT IN WRITING THE CM TO BEGIN CHANGES IN THE WORK PRIOR TO THE ISSUANCE OF A FORMAL CHANGE ORDER. THE CM SHALL PROMPTLY PERFORM THE CHANGES IN THE WORK DIRECTED BY THE OWNER IN A MANNER THAT SHALL RESULT IN MINIMUM IMPACT ON THE CRITICAL PATH.

5.2.2 CM NOTICE OF CHANGE
IF THE CM OR ANY OF THE CONTRACTORS ASSERTS THAT ANY EVENT OR OCCURRENCE HAS CAUSED A CHANGE IN OR ADDITION TO THE WORK WHICH CHANGE CAUSES AN INCREASE OR DECREASE IN THE GMP OR THE TIME REQUIRED FOR THE PERFORMANCE OF ANY PART OF THE WORK UNDER THE CONTRACT, INCLUDING WORK NOT AFFECTED DIRECTLY BY THE CHANGE, THE CM SHALL, WITHIN TEN (10) DAYS OF SUCH EVENT UNLESS SUCH EVENT WAS NOT DISCOVERED IN THE EXERCISE OF REASONABLE DILIGENCE, IN WHICH EVENT THE TEN (10) DAY NOTICE PERIOD SHALL COMMENCE UPON DISCOVERY OR WHEN THE CM SHOULD HAVE DISCOVERED SUCH EVENT, GIVE THE OWNER WRITTEN NOTICE AS HEREIN REQUIRED. SAID NOTICE SHALL INCLUDE THE INSTRUCTIONS OR CIRCUMSTANCES THAT ARE THE BASIS OF THE CLAIM AND THE CM'S BEST ESTIMATE OF THE COST AND TIME INVOLVED.

IF THE CM INTENDS TO ASSERT A CLAIM UNDER THIS SECTION, HE MUST, WITHIN TEN (10) DAYS AFTER THE FURNISHING OF A WRITTEN NOTICE AS OUTLINED ABOVE, SUBMIT TO THE OWNER A WRITTEN STATEMENT SETTING FORTH THE SPECIFIC NATURE AND ANTICIPATED COST OF SUCH CLAIM, UNLESS THIS

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PERIOD IS EXTENDED BY THE OWNER. THE STATEMENT OF CLAIM HEREUNDER MAY BE INCLUDED IN THE NOTICE REQUIRED ABOVE. THE STATEMENT OF CLAIM SHALL INCLUDE ALL DIRECT, INDIRECT AND IMPACT COSTS ASSOCIATED WITH THE CHANGE, AS WELL AS THE CM'S ESTIMATE OF THE SCHEDULE IMPACT OF THE CHANGE, IF ANY. THE CM AND THE CONTRACTORS SHALL NOT BE ENTITLED TO REIMBURSEMENT OR AN INCREASE IN THE GMP FOR ANY CLAIMS THAT ARE NOT FILED IN STRICT CONFORMANCE WITH THIS SECTION. THE CM SHALL INDEMNIFY AND HOLD THE OWNER HARMLESS AGAINST ANY CLAIMS BY THE CONTRACTORS THAT ARE WAIVED BECAUSE THEY ARE NOT FILED IN STRICT CONFORMANCE WITH THIS SECTION.

IF THE PARTIES ARE UNABLE TO AGREE TO THE REASONABLE COST AND TIME TO PERFORM THE CHANGE, OR ARE UNABLE TO AGREE AS TO WHETHER A CHANGE OCCURRED, THE OWNER SHALL MAKE A UNILATERAL DETERMINATION AS DESCRIBED IN THIS SECTION. THE CM SHALL PROCEED WITH THE WORK PURSUANT TO THE PROVISIONS OF THIS SECTION.

5.2.3 GENERAL PROVISIONS RELATED TO CHANGES

THE CM SHALL NOT BE ENTITLED TO ANY AMOUNT FOR INDIRECT COSTS, DAMAGES OR EXPENSES OF ANY NATURE, INCLUDING, BUT NOT LIMITED TO, SO-CALLED "IMPACT" COSTS, LABOR INEFFICIENCY, WAGE, MATERIAL OR OTHER ESCALATIONS BEYOND THE PRICES UPON WHICH THE PROPOSAL IS BASED AND TO WHICH THE PARTIES HAVE AGREED PURSUANT TO THE PROVISIONS OF THIS SECTION, AND WHICH THE CM, THE CONTRACTORS OR ANY OTHER PERSON MAY INCUR AS A RESULT OF DELAYS, INTERFERENCES, SUSPENSIONS, CHANGES IN SEQUENCE OR THE LIKE, FOR WHATEVER CAUSE, WHETHER REASONABLE OR UNREASONABLE, FORESEEABLE OR UNFORESEEABLE, OR AVOIDABLE OR UNAVOIDABLE, ARISING FROM THE PERFORMANCE OF ANY AND ALL CHANGES IN THE WORK PERFORMED PURSUANT TO THIS SECTION, UNLESS THE DELAY IS CAUSED SOLELY BY THE OWNER OR DESIGNER. IT IS UNDERSTOOD AND AGREED THAT THE CM'S AND THE CONTRACTORS' SOLE AND EXCLUSIVE REMEDY IN SUCH EVENT SHALL BE RECOVERY OF DIRECT COSTS AS COMPENSABLE HEREUNDER AND AN EXTENSION OF THE CONTRACT TIME, BUT ONLY IN ACCORDANCE WITH THE PROVISIONS OF THE CONTRACT DOCUMENTS. NO CLAIM BY THE CM HEREUNDER SHALL BE ALLOWED IF ASSERTED AFTER FINAL PAYMENT FOR THE CONSTRUCTION OR THE PROJECT UNDER THIS AGREEMENT. NO CLAIM RELATING TO OR FLOWING FROM A PARTICULAR CHANGE SHALL BE ALLOWED AFTER EXECUTION OF THE CHANGE ORDER RELATING TO THAT CHANGE OR COMMENCEMENT OF THE CHANGE BY THE CM, EXCEPT AS SPECIFICALLY PROVIDED IN THIS SECTION.

IF ANY DISPUTE SHOULD ARISE BETWEEN THE PARTIES WITH RESPECT TO AN INCREASE OR DECREASE IN THE GMP OR AN EXPANSION OR CONTRACTION IN THE CONTRACT TIME AS A RESULT OF A CHANGE IN THE WORK, THE CM SHALL NOT SUSPEND PERFORMANCE OF A CHANGE IN THE WORK OR THE WORK ITSELF UNLESS OTHERWISE SO ORDERED BY THE OWNER IN WRITING. THE OWNER SHALL, HOWEVER, PAY TO THE CM UP TO THE OWNER'S REASONABLE ESTIMATED VALUE OF THE CHANGE IN THE WORK, REGARDLESS OF THE DISPUTE, IF SAID CHANGE IN THE WORK RESULTS IN AN INCREASE IN THE CONTRACT SUM; AND THE OWNER SHALL HAVE THE RIGHT TO DECREASE THE CONTRACT SUM UP TO THE OWNER'S REASONABLE ESTIMATED VALUE OF THE CHANGE IN THE WORK, REGARDLESS OF THE DISPUTE, IF SAID CHANGE IN THE WORK RESULTS IN A DECREASE IN THE CONTRACT SUM. THE CM'S ACCEPTANCE OF PAYMENT FOLLOWING A UNILATERAL DECISION BY THE OWNER SHALL NOT CONSTITUTE A WAIVER OF ANY CLAIM THE CM MAY HAVE FOR ADDITIONAL COMPENSATION OR TIME, HOWEVER, ANY CLAIM THE CM MAY HAVE SHALL BE FILED IN STRICT CONFORMANCE WITH THE CONTRACT DOCUMENTS.

5.2.4.1

IF THE CHANGE IN THE WORK WILL RESULT IN A DECREASE IN THE CONTRACT SUM, THE CM SHALL PROVIDE A QUOTATION DETAILING THE PROPOSED AMOUNT OF SUCH DECREASE. THE PORTION OF THE PROPOSAL RELATING TO LABOR, WHETHER BY THE CM'S FORCES OR THE FORCES OF ANY OF THE CONTRACTORS, SHALL INCLUDE REASONABLY ANTICIPATED GROSS WAGES OF JOB SITE LABOR, INCLUDING FOREMEN, WHO WOULD HAVE BEEN DIRECTLY INVOLVED IN THE WORK THAT HAS BEEN DELETED FROM THE CONTRACT (FOR SUCH TIME AS THEY WOULD HAVE BEEN SO INVOLVED), PLUS PAYROLL COSTS (INCLUDING PREMIUM COSTS OF OVERTIME TIME, IF OVERTIME WAS ANTICIPATED, SOCIAL SECURITY, FEDERAL OR STATE UNEMPLOYMENT INSURANCE TAXES AND FRINGE BENEFITS REQUIRED BY COLLECTIVE BARGAINING AGREEMENTS ENTERED INTO BY THE CONTRACTOR OR ANY SUBCONTRACTOR IN CONNECTION WITH SUCH LABOR) AND SEVEN PERCENT (7%) OF SUCH ANTICIPATED GROSS WAGES, BUT NOT PAYROLL COSTS, AS OVERHEAD AND PROFIT NOT INCURRED OR EARNED BY THE CONTRACTOR OR ANY SUBCONTRACTOR, AS APPLICABLE (SAID OVERHEAD AND PROFIT TO INCLUDE ALL SUPERVISION EXCEPT FOREMEN). IF APPLICABLE, THE FEE PERCENTAGE TO BE APPLIED TO THE CM'S FORCES SHALL BE THE PERCENTAGE STATED IN SECTION 7.4.1.

5.2.4.2

THE PORTION OF THE PROPOSAL RELATING TO MATERIALS SHALL INCLUDE THE REASONABLY ANTICIPATED DIRECT COSTS WHICH WOULD HAVE BEEN INCURRED BY THE CONTRACTOR OR TO ANY SUBCONTRACTORS FOR MATERIALS WHICH WOULD HAVE BEEN PURCHASED OR INCORPORATION IN THE WORK BUT WHICH HAS BEEN DELETED FROM THE CONTRACT, PLUS TRANSPORTATION AND APPLICABLE SALES AND USE TAXES WHICH WILL BE AVOIDED, AND SEVEN PERCENT (7%) OF SAID DIRECT MATERIAL COSTS INCURRED BY THE CONTRACTOR OR

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SUBCONTRACTOR (EXCLUDING TRANSPORTATION AND SALES AND USE TAXES) AS OVERHEAD AND PROFIT NOT INCURRED OR EARNED BY THE CONTRACTOR OR ANY SUBCONTRACTOR (SAID OVERHEAD AND PROFIT TO INCLUDE ALL SMALL TOOLS), AND SHALL FURTHER INCLUDE THE CONTRACTOR'S AND SUBCONTRACTOR'S REASONABLY ANTICIPATED RENTAL COSTS WHICH WILL BE AVOIDED (EITHER ACTUAL OR DISCOUNTED LOCAL PUBLISHED RATES), PLUS FIVE PERCENT (5%) THEREOF AS OVERHEAD AND PROFIT NOT INCURRED OR EARNED BY THE CONTRACTOR OR SUBCONTRACTOR, AS APPLICABLE. IF ANY OF THE ITEMS INCLUDED IN THE LUMP SUM PROPOSAL ARE COVERED BY UNIT PRICES CONTAINED IN THE CONTRACT DOCUMENTS, THE OWNER MAY ELECT TO USE THESE UNIT PRICES IN DETERMINING THE AMOUNT OF REDUCTION TO THE GMP AS A RESULT OF A DELETION OF WORK FROM THE CONTRACT. NO OVERHEAD AND PROFIT SHALL BE APPLIED TO ANY UNIT PRICES FOR PURPOSES OF CALCULATION SUCH REDUCTION IN THE CONTRACT SUM. THE LUMP SUM PROPOSAL FOR WORK WHICH WOULD HAVE BEEN PERFORMED BY ANY SUBCONTRACTORS SHALL INCLUDE FOUR PERCENT (4%) OF THAT AMOUNT AS AN ESTIMATE OF THE CONTRACTOR'S OVERHEAD AND PROFIT THAT WILL NOT BE EARNED BY CONTRACTOR DUE TO THE DECREASE IN THE CONTRACT SUM. IN THE EVENT THE CONSTRUCTION WORK WOULD HAVE BEEN PERFORMED BY THE CM IN THE LIMITED CIRCUMSTANCES ALLOWED IN THIS CONTRACT, THE FEE PERCENTAGES STATED IN THIS SECTION SHALL APPLY TO THE WORK THAT WOULD HAVE BEEN PERFORMED BY THE CM AS THE CONTRACTOR AND ITS SUBCONTRACTORS.

5.2.4.3

THE CM'S QUOTATION SHALL BE FORWARDED TO THE OWNER WITHIN TEN (10) DAYS OF THE OWNER'S REQUEST AND, IF ACCEPTABLE TO THE OWNER, SHALL BE INCORPORATED IN A CHANGE ORDER. IF NOT ACCEPTABLE, THE PARTIES SHALL MAKE EVERY REASONABLE EFFORT TO AGREE AS TO THE AMOUNT OF SUCH DECREASE, WHICH MAY BE BASED ON A LUMP SUM PROPERLY ITEMIZED, ON UNIT PRICES STATED IN THE CONTRACT DOCUMENTS AND/OR ON SUCH OTHER BASIS AS THE PARTIES MAY MUTUALLY DETERMINE. IF THE PARTIES ARE UNABLE TO SO AGREE, THE AMOUNT OF SUCH DECREASE SHALL BE THE TOTAL OF THE ESTIMATED REDUCTION IN ACTUAL COST OF THE WORK, AS DETERMINED BY THE OWNER IN ITS REASONABLE JUDGMENT, PLUS OVERHEAD AND PROFIT AS STATED ABOVE. THE CM'S ACCEPTANCE OF PAYMENT FOLLOWING A UNILATERAL DECISION BY THE OWNER SHALL NOT CONSTITUTE A WAIVER OF ANY CLAIM THE CM MAY HAVE FOR ADDITIONAL COMPENSATION. HOWEVER, ANY CLAIM THE CM MAY HAVE SHALL BE FILED IN STRICT CONFORMANCE WITH THE CONTRACT DOCUMENTS.

5.2.5. MINOR CHANGES IN THE WORK

THE OWNER SHALL HAVE AUTHORITY TO ORDER MINOR CHANGES IN THE WORK NOT INVOLVING AN ADJUSTMENT IN THE CONTRACT SUM OR AN EXTENSION OF THE CONTRACT TIME AND NOT INCONSISTENT WITH THE INTENT OF THE CONTRACT DOCUMENTS. SUCH CHANGES SHALL BE EFFECTED BY WRITTEN ORDER, AND SHALL BE BINDING ON THE OWNER AND THE CM. THE CM SHALL CARRY OUT SUCH WRITTEN ORDERS PROMPTLY.

THE CM SHALL NOT PERFORM ANY CHANGES IN THE WORK UNLESS AUTHORIZED IN WRITING BY THE DESIGNER OR OWNER. THE CM'S PERFORMANCE OF MINOR CHANGES PURSUANT TO THIS SECTION SHALL NOT CONSTITUTE A WAIVER OF ANY CLAIM THE CM MAY HAVE FOR ADDITIONAL COMPENSATION OR TIME. HOWEVER, ANY CLAIM THE CM MAY HAVE SHALL BE FILED IN STRICT CONFORMANCE WITH THE CONTRACT DOCUMENTS.

5.2.6 DIFFERING SITE CONDITIONS

SHOULD THE CM ENCOUNTER SUBSURFACE AND/OR LATENT CONDITIONS AT THE SITE MATERIALLY DIFFERING FROM THOSE SHOWN ON THE DRAWINGS OR INDICATED IN THE SPECIFICATIONS OR DIFFERING MATERIALLY FROM THOSE ORDINARILY ENCOUNTERED AND GENERALLY RECOGNIZED AS INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THIS CONTRACT, HE SHALL IMMEDIATELY GIVE NOTICE TO THE OWNER OF SUCH CONDITIONS BEFORE THEY ARE DISTURBED. THE OWNER AND THE DESIGNER SHALL THEREUPON PROMPTLY INVESTIGATE THE CONDITIONS AND IF THEY FIND THAT THEY MATERIALLY DIFFER FROM THOSE SHOWN ON THE DRAWINGS OR INDICATED IN THE SPECIFICATIONS, THEY SHALL AT ONCE MAKE SUCH CHANGES IN THE DRAWINGS AND/OR SPECIFICATIONS AS THEY MAY FIND NECESSARY. ANY INCREASE OR DECREASE OF COST RESULTING FROM SUCH CHANGES SHALL BE ADJUSTED IN THE MANNER PROVIDED HEREIN FOR ADJUSTMENTS AS TO EXTRA AND/OR ADDITIONAL WORK AND CHANGES. HOWEVER, NEITHER THE OWNER NOR THE DESIGNER SHALL BE LIABLE OR RESPONSIBLE FOR ADDITIONAL WORK, COSTS OR CHANGES TO THE WORK THAT COULD HAVE BEEN REASONABLY DETERMINED FROM ANY GEOTECHNICAL, SOILS AND OTHER REPORTS, SURVEYS AND ANALYSES MADE AVAILABLE FOR THE CM'S REVIEW OR THAT COULD OF BEEN DISCOVERED BY THE CM THROUGH THE PERFORMANCE OF ITS OBLIGATIONS PURSUANT TO THIS AGREEMENT.

5.3 GENERAL PROVISIONS REGARDING CHANGES IN CONTRACTOR WORK. IN THE EVENT THE WORK INCLUDED IN THE ORIGINAL CONTRACT ISSUED TO A CONTRACTOR IS CHANGED, OR NEW CONTRACTS ARE ISSUED, THE CM SHALL NOTIFY THE OWNER OF THE CHANGE OR THE NEW CONTRACT, INCLUDING THE NATURE AND REASON FOR THE CHANGE OR NEW CONTRACT AND THE ASSOCIATED COST, REGARDLESS OF WHETHER THE CHANGE OR NEW CONTRACT IS BELIEVED TO RESULT IN AN INCREASE OR DECREASE IN THE GMP. THE OWNER AND CM SHALL REVIEW ALL CHANGES OR NEW CONTRACTS THAT WERE NOT INCORPORATED INTO A CHANGE ORDER BETWEEN THE OWNER AND CM OR RESULTED IN THE USE OF EITHER OF THE CM'S CONTINGENCIES AT THE CONCLUSION OF THE PROJECT IN ORDER TO DETERMINE WHETHER THE OWNER IS ENTITLED TO A REDUCTION IN THE COST OF WORK PORTION OF THE GMP AS IT IS DEFINED IN PARAGRAPH 7.4.1.

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ARTICLE 6
OWNER'S RESPONSIBILITIES

6.1 The Owner shall provide to the CM complete information regarding the Owner's requirements for the Project.

6.2 The Owner shall examine information submitted by the CM and shall render decisions thereto promptly.

6.3 The Owner shall CONTRACT WITH A DESIGNER TO furnish design ~~, legal, accounting and insurance~~ counseling services as may be necessary for the Project.

6.4 The Owner shall furnish insurance for the Project ONLY as specified in Article 8.

6.5 If the Owner observes or otherwise becomes aware of any fault or defect in the Project or nonconformity with the Contract Documents, the Owner shall give prompt written notice thereof to the CM.

6.6 The Owner shall furnish required information and approvals and perform its responsibilities and activities in a timely manner to facilitate orderly progress of the Work in cooperation with the CM, consistent with this Agreement, and in accordance with the planning and scheduling requirements and budgetary restraints of the Project as determined by the CM.

6.7 The Owner shall retain a Designer whose services, duties and responsibilities shall be described in a written agreement between the Owner and Designer. The services, duties, and responsibilities of the Designer set out in the agreement between the Owner and Designer shall be compatible and consistent with this Agreement and the Contract Documents. The Owner shall, in its agreement with the Designer, require that the Designer perform its services in cooperation with the CM, consistent with this Agreement and in accordance with the planning, scheduling and budgetary requirements of the Project as determined by the Owner and documented by the CM. ~~The terms and conditions of the agreement between the Owner and the Designer shall not be changed or waived without written consent of the CM, whose consent shall not be unreasonably withheld.~~

6.8 The Owner shall approve the Project and Construction Budget and any subsequent revisions as provided in Paragraph 3.2.3.2 of this Agreement.

6.9 If the Owner contracts separately with any other parties, the Owner shall cause all such agreements to be compatible and consistent with this Agreement. ~~Each of the agreements shall include waiver of subrogation as required herein.~~

6.10 At the request of the CM, sufficient copies of interim and final BIDDING drawings, specifications and Contract Documents shall be furnished to OR PRINTED BY the CM by ~~the~~ Owner ~~at the Owner's~~ expense. THE CM SHALL BE SOLELY RESPONSIBLE FOR THE COST OF ANY DRAWINGS, SPECIFICATIONS AND CONTRACT DOCUMENTS REQUIRED AFTER BIDDING THE PROJECT.

6.11 The Owner OR DESIGNER shall in a timely manner secure, submit and pay for necessary approvals, easements, assessments, permits and charges required for the construction, use or occupancy of permanent structures, or for permanent changes in existing facilities.

6.12 The Owner shall furnish evidence satisfactory to the CM that sufficient funds are available and committed for the entire cost of the Project. ~~Unless such reasonable evidence is furnished, the CM is not required to commence its services and may, if such evidence is not presented within a reasonable time, suspend the services specified in this Agreement upon fifteen (15) days written notice to the Owner and in such event the CM shall be compensated in the manner provided in Article 9.2.~~ THE OWNER MAY AUTHORIZE THE CM TO PROCEED WITH THE WORK ON THE PROJECT IN DISCREET PHASES IF ALL OF THE FUNDS REQUIRED FOR THE ENTIRE PROJECT ARE NOT IDENTIFIED AT THE TIME THIS AGREEMENT IS EXECUTED BY THE PARTIES.

6.13 The Owner, its representatives and consultants, including Designers, shall ENDEAVOR TO communicate with the Contractors only through the CM.

6.14 The Owner shall send to the CM and shall require the Designer to send the CM copies of all notices and communications sent to or received by the Owner or Designer relating to the Project.

6.15 The Owner shall designate, in writing, an officer, employee or other authorized representatives to act in the Owner's behalf with respect to the Project. This representative shall ~~have the authority to approve changes in the scope of the project and shall be~~ available during working hours and as often as may be required to render decisions and furnish information in a ~~timely manner~~ SO AS NOT TO DELAY THE PROJECT. THE CM ACKNOWLEDGES THAT SOME CHANGES IN THE SCOPE OF THE PROJECT MAY REQUIRE APPROVAL BY THE BOARD OF EDUCATION. THE CM SHALL NOTIFY THE OWNER IN WRITING OF ANY DEADLINES FOR RESPONSES AND HOW THE OWNER'S FAILURE TO RESPOND BY THE STATED DEADLINE WILL IMPACT THE PROJECT SCHEDULE.

6.16 The Owner shall make payments to the CM on the basis of the Contractors' payment applications that are certified by the CM and on the basis of the CM's invoices for its services performed. PRIOR TO PAYMENT BY THE OWNER, THE DESIGNER SHALL REVIEW AND APPROVE THE CONTRACTORS' PAY APPLICATIONS IN ACCORDANCE WITH PARAGRAPHS 3.5.3.6 AND 3.5.3.7.

ARTICLE 7
COMPENSATION FOR CM SERVICES AND PAYMENT

7.1 Guaranteed Maximum Price

7.1.1 ~~During the Design Phase, but not later than sixty (60) days prior to the date that the Work is advertised for bids, the Owner, at its sole option, may request the CM to propose a Guaranteed Maximum Price for the Project. The Guaranteed Maximum Price shall be documented by the CM as defined in Article 12 and, once established, the Guaranteed Maximum Price shall be subject to modification only as defined in this Agreement.~~ THE OWNER AND CM AGREE THAT THE GUARANTEED MAXIMUM PRICE SHALL BE [redacted] FOR THIS PROJECT. THE PARTIES FURTHER AGREE THAT IN THE EVENT THE BIDS RECEIVED BY THE CM FOR THE WORK, INCLUDING ALL OF THE ALTERNATES ACCEPTED BY THE OWNER, PURSUANT TO ARTICLE 3.4 OF THIS AGREEMENT,

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EXCEED THE LINE ITEM IN THE GMP FOR THE COST OF THE WORK, THE CM SHALL BE SOLELY RESPONSIBLE FOR THE ADDITIONAL COST OF THE WORK, UNLESS THIS AGREEMENT IS TERMINATED BY THE CM PURSUANT TO PARAGRAPH 7.1.1.1. IN THE EVENT THAT THE BIDS RECEIVED BY THE CM FOR THE WORK, INCLUDING ALL ALTERNATIVES ACCEPTED BY THE OWNER, ARE LESS THAN THE LINE ITEM IN THE GMP FOR THE COST OF THE WORK, THE REMAINING FUNDS SHALL BE ADDED TO THE OWNER'S ALLOWANCE. THE SCOPE OF WORK INCLUDED IN THE BID DOCUMENTS, INCLUDING ANY ALTERNATES ACCEPTED BY THE OWNER, SHALL FORM THE BASIS OF THE WORK TO BE PERFORMED BY THE CM. THE CM AND OWNER AGREE THAT THE LINE ITEMS IN THE GMP SHALL CONSIST OF THE COST OF THE WORK, CM'S CONTINGENCY, OWNER'S ALLOWANCE, GENERAL CONDITIONS, AND CM'S FEE. THE CM AND OWNER FURTHER AGREE THAT THE DOLLAR VALUES FOR THE LINE ITEMS IN THE GMP STATED ABOVE CONSIST OF THE COST OF THE WORK, [redacted] CM CONSTRUCTION CONTINGENCY [redacted] OWNER'S ALLOWANCE [redacted] GENERAL CONDITIONS [redacted] AND CM'S FEE [redacted] FOR PRECONSTRUCTION SERVICES AND [redacted] FOR CONSTRUCTION AND POST-CONSTRUCTION SERVICES).

7.1.1.1 ~~The Guaranteed Maximum Price shall be submitted to the Owner not more than thirty (30) days after receipt by the CM of the Owner's request for the Guaranteed Maximum Price. The Owner shall accept such Guaranteed Maximum Price within fifteen (15) days of the date of the receipt unless such time is mutually agreed to be extended. If the Owner does not accept the Guaranteed Maximum Price within the time period herein provided, such price shall be presumed to be rejected by the Owner.~~ THE PARTIES AGREE THAT IN THE EVENT THE BIDS RECEIVED BY THE CM FOR THE WORK, INCLUDING ALL OF THE ALTERNATES ACCEPTED BY THE OWNER, PURSUANT TO ARTICLE 3.4 OF THIS AGREEMENT EXCEED THE LINE ITEM IN THE GMP FOR THE COST OF THE WORK, THEN THE CM SHALL HAVE THE RIGHT TO TERMINATE THIS AGREEMENT. THE CM SHALL PROVIDE THE OWNER WITH NOTICE OF INTENT TO TERMINATE PURSUANT TO THIS PROVISION WITHIN FIFTEEN (15) DAYS OF THE CM'S RECEIPT OF BIDS FOR THE PROJECT. PRIOR TO A TERMINATION PURSUANT TO THIS PROVISION BECOMING EFFECTIVE, THE OWNER AND CM WILL REVIEW THE LIST OF ALTERNATES, OTHER MODIFICATIONS OR VALUE ENGINEERING REQUESTS IN ORDER TO DETERMINE WHETHER AN AGREEMENT CAN BE REACHED BETWEEN THE OWNER AND CM REGARDING A MODIFIED SCOPE OF WORK OR AN ADJUSTMENT TO THE GMP. IN THE EVENT AN AGREEMENT REGARDING THE MODIFIED SCOPE OF THE WORK AND/OR A REVISION TO THE GMP CANNOT BE REACHED WITHIN FIFTEEN (15) DAYS OF THE OWNER'S RECEIPT OF NOTICE OF INTENT TO TERMINATE PURSUANT TO THIS SECTION, THEN THE TERMINATION SHALL BECOME IMMEDIATELY EFFECTIVE.

7.1.1.2 ~~In the event the Owner does not accept the CM's proposed Guaranteed Maximum Price or elects not to go forward with the Project, the CM shall be reimbursed in accordance with the requirements for termination as defined in Paragraphs 9.1.1 and 9.1.3 of this Agreement.~~ THE PARTIES SPECIFICALLY AGREE THAT NONE OF THE PROVISIONS IN ARTICLE 10 SHALL APPLY TO ANY TERMINATION OF THIS AGREEMENT PURSUANT TO SECTION 7.1.1.1, BUT THE CM SHALL BE ENTITLED TO PAYMENT FOR WORK ACTUALLY PERFORMED THROUGH THE PROCUREMENT PHASE (SECTION 3.4) PURSUANT TO THE COMPENSATION SET FORTH IN PARAGRAPH 7.4.1; HOWEVER, CM SHALL NOT BE COMPENSATED FOR ANY SERVICES PROVIDED AFTER THE DATE OF TERMINATION. IN THE EVENT A MODIFIED SCOPE OF WORK AND/OR A REVISION TO THE GMP IS AGREED UPON BY THE PARTIES, THE MODIFIED SCOPE SHALL FORM THE BASIS OF THE WORK TO BE PERFORMED BY THE CM FOR THE ESTABLISHED GMP. THE CM CONSTRUCTION CONTINGENCY, GENERAL CONDITIONS, AND/OR CM'S FEE FOR CONSTRUCTION MAY BE REDUCED BY MUTUAL CONSENT OF BOTH PARTIES IN ORDER TO PROVIDE FUNDING FOR THE PROJECT. THE CM AND OWNER SHALL DOCUMENT ANY CHANGES TO THE GMP, SCOPE OF WORK, COST OF THE WORK, GENERAL CONDITIONS, CM FEE, OR CM CONTINGENCY PRIOR TO THE OWNER ISSUING NOTICE TO PROCEED WITH THE WORK. ANY REDUCTION IN THE COST OF THE WORK AS A RESULT OF A MODIFICATION OF THE PROJECT SCOPE SHALL BE ADDED TO THE OWNER'S ALLOWANCE.

7.1.1.3 In the event the Owner does not request the CM to establish a Guaranteed Maximum Price or does not accept the CM's Guaranteed Maximum Price, but chooses to proceed with the Project, then all provisions of this Agreement regarding the Guaranteed Maximum Price and adjustments thereto shall become null and void. IN THE EVENT THIS AGREEMENT IS TERMINATED PURSUANT TO THIS PROVISION, THE CM SHALL ONLY BE ENTITLED TO RECEIVE COMPENSATION FOR SERVICES AS OUTLINED IN ARTICLE 10. All other provisions of this Agreement shall remain in full force and effect, with all Project costs being reimbursed to the CM by the Owner in accordance with this Agreement without the limitations imposed by Paragraph 12.1.65 thereof.

7.1.1.4 ~~In the event that the Guaranteed Maximum Price is accepted by the Owner within the time stipulated herein, the applicable sections of Article 12 of this Agreement shall be completed and initialed by both parties to this Agreement and the CM shall become responsible for the means, methods, sequences, and procedures used in the construction of the Project and shall proceed with the CM's Basic Services.~~ IN THE EVENT THAT THE GUARANTEED MAXIMUM PRICE IS ACCEPTED BY THE OWNER, A CHANGE ORDER SHALL BE COMPLETED AND EXECUTED BY BOTH PARTIES TO THIS AGREEMENT AND THE CM SHALL BECOME RESPONSIBLE FOR THE MEANS, METHODS, SEQUENCES, AND PROCEDURES USED IN THE CONSTRUCTION OF THE PROJECT AND SHALL PROCEED WITH THE CM'S BASIC SERVICES.

7.1.1.5 Construction contracts for the Work required for the Project shall be between the CM and Contractors. The CM shall request and receive bids for each contract and shall ~~advise the Owner with respect to award of a contract to the lowest responsive and responsible bidder~~ SOLICIT AND AWARD THE CONTRACTS IN ACCORDANCE WITH N.C. GEN. STAT. § 143-128 TO-132. THE CONTRACTOR AND CM SHALL COMPLY IN ALL RESPECTS WITH THE OWNER'S MBE POLICIES, RULES AND REGULATIONS. The CM shall enter into ~~a~~ CONTRACTS with that THE LOWEST RESPONSIBLE AND RESPONSIVE BIDDERS

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~~bidder~~ within sixty (60) days after NOTICE OF APPROVAL OF THE GMP BY ~~receipt of approval of award from~~ the Owner; HOWEVER, THE CM SHALL NOT BE ENTITLED TO ADDITIONAL TIME TO COMPLETE THE PROJECT DUE TO ANY DELAY IN ENTERING INTO CONTRACTS WITH A BIDDER UNLESS THE DELAY IS DUE SOLELY TO THE ACTIONS OR INACTIONS OF THE OWNER.

7.1.1.6 ~~The CM shall be eligible to perform work on the Project. Should the CM elect to do so, it shall be required to offer a sealed bid for such parts of the Project. The CM's bid shall be due on the date established for receipt of the other separate contractor bids. In the event that the CM is determined to be the lowest responsive and responsible bidder on such work, the Owner shall approve award to the CM and shall enter into a separate contract with the CM for that work.~~ THE CM MAY PERFORM A PORTION OF THE WORK ONLY IF (1) BIDDING PRODUCES NO RESPONSIBLE, RESPONSIVE BIDDER FOR THAT PORTION OF THE WORK, THE LOWEST, RESPONSIVE, RESPONSIBLE BIDDER WILL NOT EXECUTE A CONTRACT FOR THE BID PORTION OF THE WORK, OR A CONTRACTOR DEFAULTS AND A PRE-QUALIFIED REPLACEMENT CANNOT BE OBTAINED IN A TIMELY MANNER, AND (2) THE OWNER APPROVES OF THE CM'S SELF-PERFORMING OF THE WORK. IN THE EVENT THE CM SELF-PERFORMS A PORTION OF THE WORK PURSUANT TO EITHER METHOD NOTED ABOVE, IT SHALL BE PAID FOR THE DIRECT COST OF THE WORK WITH NO REIMBURSEMENT FOR OFFICE OVERHEAD OR FOR ANY OTHER WORK OTHERWISE INCLUDED IN THE GENERAL CONDITIONS. THE FEE FOR THE WORK WILL BE AT THE SAME CM FEE PERCENTAGE STATED IN 7.4.1. THIS PARAGRAPH SHALL NOT GOVERN COMPENSATION FOR WORK SELF-PERFORMED BY THE CM PURSUANT TO PARAGRAPH 5.2.

7.1.1.7 The Guaranteed Maximum Price is the total cost of the Project, as defined herein. The Guaranteed Maximum Price includes the cost of labor, equipment, supplies, materials, services and allowances to complete the project. The cost data shall be directly correlated to the specific design drawings and specifications in existence at the time the Guaranteed Maximum Price is prepared. The assumptions used in the preparation of the Guaranteed Maximum Price shall be identified by the CM as part of the Guaranteed Maximum Price documentation, ~~in accordance with Paragraph 12.1.2, and appended hereto.~~ AND INCORPORATED INTO THE CHANGE ORDER ESTABLISHING THE GMP.

THE GMP SHALL INCLUDE THE COST OF THE WORK, CM'S GENERAL CONDITIONS, ~~BONDS/INSURANCE~~, THE CM'S FEE FOR CONSTRUCTION AND POST-CONSTRUCTION PHASE BASIC SERVICES, AND THE OWNER'S ALLOWANCE. THE GMP SHALL ALSO INCLUDE A CM CONSTRUCTION CONTINGENCY FUND. THE CM'S CONSTRUCTION CONTINGENCY FUND AND THE OWNER'S ALLOWANCE SHALL ONLY BE UTILIZED AS OUTLINED IN PARAGRAPHS 7.1.1.7.1 AND 7.1.1.7.2. THE CM'S FEE SHALL BE PAID PURSUANT TO SECTION 7.4. THE GENERAL CONDITIONS SHALL BE REIMBURSED AS DESCRIBED IN 7.1.1.7.3.

7.1.1.7.1 UNLESS OTHERWISE AGREED IN WRITING, THE CM'S CONSTRUCTION CONTINGENCY MAY BE USED BY THE CM TO EXPEDITE THE WORK, ADDRESS SCHEDULING AND COORDINATION PROBLEMS, RESPOND TO A DEFAULT BY A NON-BONDED CONTRACTOR, AND REPAIR DAMAGED WORK IN PLACE WHERE THE RESPONSIBLE CONTRACTOR CANNOT BE IDENTIFIED BY THE CM AFTER REASONABLE EFFORTS TO IDENTIFY THE RESPONSIBLE PARTY. THE CM'S CONSTRUCTION CONTINGENCY MAY ALSO BE USED BY THE CM TO CORRECT DESIGN ISSUES THAT REASONABLY SHOULD HAVE BEEN DISCOVERED BY THE CM DURING THE PERFORMANCE OF ITS OBLIGATIONS PURSUANT TO PARAGRAPHS 3.3.1.5 AND 3.3.1.6, CORRECT SCOPE GAPS IN THE BIDDING OF THE PROJECT, CORRECT CODE, REGULATORY AND OTHER ITEMS IDENTIFIED BY THE OWNER IN WRITING PRIOR TO BIDDING THE PROJECT, CORRECT ITEMS IDENTIFIED IN CHANGE ORDERS OR REQUEST FOR INFORMATION ARISING ON PREVIOUS USES OF THE SAME PROTOTYPE DESIGN, AND ANY ISSUES THAT ARE THE FAULT OF THE CM. THE CM'S USE OF THE CM'S CONSTRUCTION CONTINGENCY FUND SHALL BE DOCUMENTED IN WRITING BY THE CM AND APPROVED BY THE OWNER IN WRITING PRIOR TO THE CM BILLING FOR THE WORK. THE CM SHALL NOT BE ENTITLED TO RECEIVE ANY FEE FOR THE USE OF THE CM'S CONTINGENCY. IN THE EVENT OF A DEFAULT BY A CONTRACTOR, THE CM SHALL NOT USE THE CM'S CONTINGENCY TO COVER ANY COSTS COVERED BY A PERFORMANCE OR PAYMENT BOND PROVIDED BY THE CONTRACTOR OR COVERED BY A PROGRAM PAID FOR BY THE CM TO INSURE THE PERFORMANCE OF THE CONTRACTORS. THE CM SHALL VIGOROUSLY PURSUE REIMBURSEMENT OF ALL EXPENSES FROM THE CONTRACTOR'S SURETY OR THROUGH THE PROGRAM PROVIDED BY THE CM.

7.1.1.7.2 UNLESS OTHERWISE AGREED IN WRITING, THE OWNER'S ALLOWANCE SHALL BE USED TO CORRECT ANY DESIGN ISSUES THAT COULD NOT REASONABLY HAVE BEEN DISCOVERED BY THE CM DURING THE PERFORMANCE OF ITS OBLIGATIONS DURING THE DESIGN AND BIDDING PHASES, AND ANY CHANGES REQUESTED BY THE OWNER. THE USE OF THE OWNER'S ALLOWANCE SHALL BE DOCUMENTED IN WRITING BY THE CM AND APPROVED BY THE OWNER IN WRITING PRIOR TO THE CM BILLING FOR THE WORK.

7.1.1.7.3 THE GENERAL CONDITIONS SHALL BE PAID AS A REIMBURSABLE EXPENSE IN AN AMOUNT THAT SHALL NOT EXCEED THE AMOUNT INCLUDED IN THE GMP. THE OWNER AND CM AGREE THAT THE ITEMS TO BE REIMBURSED AS GENERAL CONDITIONS ARE INDICATED IN APPENDIX C. THE OWNER RESERVES THE RIGHT TO TAKE OWNERSHIP AND POSSESSION OF ANY EQUIPMENT OR OTHER ITEM PURCHASED BY THE CM AS PART OF GENERAL CONDITIONS AT THE CONCLUSION OF THE PROJECT. THE CM SHALL BE NOTIFIED OF THE OWNER'S INTENT TO TAKE POSSESSION OF ANY SUCH ITEMS PRIOR TO FINAL PAYMENT.

7.1.1.8 The Guaranteed Maximum Price shall include those taxes applicable to the Project ~~that are legally enacted at the time the Guaranteed Maximum Price is established. Any increase or decrease in taxes that affect the Guaranteed Maximum Price and that are enacted after the Guaranteed Maximum Price is submitted shall be incorporated into that price by change order~~. ANY SALES TAX REFUNDS PAID TO THE OWNER SHALL BE EXCLUSIVELY FOR THE OWNER'S USE AND SHALL NOT IN ANY WAY REDUCE

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THE COST OF THE PROJECT OR IMPACT THE GUARANTEED MAXIMUM PRICE.

7.1.1.9 The Owner may change the scope of the Project or a part thereof and the Guaranteed Maximum Price shall then be adjusted as provided in Paragraph 7.1.3.

7.1.1.10 IN THE EVENT THAT THE COST OF THE PROJECT EXCEEDS THE GUARANTEED MAXIMUM PRICE AND ANY ADJUSTMENTS THEREIN (SUCH AS ALLOWANCES, ARCHITECTURAL ERRORS, OR OWNER REQUESTED CHANGES) AS MAY BE DUE PURSUANT TO THE TERMS HEREOF, THE CM SHALL CONTINUE TO PERFORM AT NO ADDITIONAL COST TO THE OWNER UNTIL THE PROJECT, DEFINED BY THIS AGREEMENT AND ATTACHMENTS HERETO, IS COMPLETE AND ACHIEVES FINAL COMPLETION. THE CM SHALL BE RESPONSIBLE FOR PAYING ALL COSTS AND EXPENSES, IN ACCORDANCE WITH THE TERMS OF THIS AGREEMENT, THAT MAY BE NECESSARY TO COMPLETE THE PROJECT, EVEN IF SUCH AMOUNTS ARE IN EXCESS OF THE GUARANTEED MAXIMUM PRICE.

7.1.2 Cost of the Project

The term "cost of the Project" shall include all amounts paid by the Owner to the CM for CONSTRUCTION AND POST-CONSTRUCTION PHASE BASIC SERVICES PROVIDED BY THE CM IN PARAGRAPHS 3.5 AND 3.6 AND payment to all separate Contractors, suppliers and equipment lessors for all work, material, and equipment supplied to the Project including general conditions items.

7.1.2.1 The cost of the Project shall not include the following:

7.1.2.1.1 The CM's fee for Basic Services IN PARAGRAPHS 3.2, 3.3 AND 3.4;

7.1.2.1.2 All professional fees paid by the Owner to the Designer or other consultants retained directly by the Owner;

7.1.2.1.3 All costs paid directly by the Owner to contractors or suppliers retained directly by the Owner and outside the scope of the Guaranteed Maximum Price;

7.1.2.1.4 All Additional Services costs as defined herein; or

7.1.2.1.5 All other costs ~~not within the control of the CM or~~ identified as being not within the Guaranteed Maximum Price.

7.1.2.2 The cost of the Project may be further defined in the ~~documentation required by Paragraph 12.1.2 of this Agreement~~ CHANGE ORDER IDENTIFYING THE SCOPE OF THE WORK AND THE FINAL GUARANTEED MAXIMUM PRICE. If the requirements of this Paragraph 7.1.2 and the documentation required by THE CHANGE ORDER ESTABLISHING THE GUARANTEED MAXIMUM PRICE ~~Paragraph 12.1.2~~ differ, then the CM shall identify and explain the difference, but the documentation provided in accordance with CHANGE ORDER ESTABLISHING THE FINAL GUARANTEED MAXIMUM PRICE ~~Paragraph 12.1.2~~ shall be the basis for determining the scope of the Guaranteed Maximum Price.

7.1.3 Adjustments to the Guaranteed Maximum Price

The CM understands, confirms and agrees that its responsibility hereunder is to construct the Project in accordance with the drawings and specifications. It is recognized that the Guaranteed Maximum Price may be determined based upon incomplete design documents and in those instances in which the drawings and specifications are not complete at the time the Guaranteed Maximum Price is established, the CM shall exercise reasonable care and judgment to determine the intent of the design and shall calculate the Guaranteed Maximum Price on the basis of the quality of construction, materials, and finishes that can be reasonably inferred from the design documents or other specified sources. The CM shall determine unit prices and the cost of the Project and shall make those assumptions regarding the project scope and the quality of the intended construction as may be necessary to fully document the Guaranteed Maximum Price. The Owner and CM shall use the ~~documentation specified in Paragraph 12.1.2~~ MOST RECENTLY APPROVED PROJECT SCOPE in determining whether or not the scope of the Project or a part thereof has been changed and in determining entitlement to an adjustment to the Guaranteed Maximum Price. A determination regarding all requests for adjustment to the Guaranteed Maximum Price shall be made in writing within thirty (30) days from the date of a written request for an adjustment.

7.1.3.1 The amount of adjustment to increase or decrease the Guaranteed Maximum Price resulting from a change in the Project shall be determined in one or more of the following ways:

7.1.3.1.1 By mutual acceptance of a lump sum, properly itemized and supported by cost data; or

7.1.3.1.2 By unit prices defined and listed in ~~Exhibit A~~ THE GMP DOCUMENTATION; or

7.1.3.1.3 If neither of the methods set forth in 7.1.3.1.1 or 7.1.3.1.2 is agreed upon by the Owner, the CM provided it receives a written order signed by the Owner, shall promptly proceed with the work involved. The cost of such work shall then be determined on ~~the basis of the cost records for the changed~~ work A TIME AND MATERIAL BASIS PURSUANT TO ARTICLE 5. Choice of this method shall not restrict the Owner or the CM from ~~submitting the matter to arbitration as to~~ DISPUTING the justification or right of the CM to an increase in the Guaranteed Maximum Price due to such work. In such case, the CM shall keep and present in such form as may be agreeable to the Owner an itemized accounting together with appropriate supporting data of the actual cost of the Project.

7.1.3.2 If the unit prices are stated and if the quantities originally contemplated by the CM are so changed in a proposed change order or as a result of several change orders that application of the agreed unit prices to the quantities or work proposed cause substantial inequity to the Owner or the CM, the applicable unit prices and Guaranteed Maximum Price shall be adjusted.

7.1.3.3 Should concealed or unknown physical conditions be encountered that differ materially from those identified in the drawings or specifications, the Guaranteed Maximum Price ~~and the completion date shall be adjusted upon claim made by either party to this Agreement within ten (10) calendar days after the first observance of the conditions~~ MAY BE ADJUSTED BY CHANGE ORDER IN ACCORDANCE WITH PARAGRAPH 5.2.2.

7.1.3.4 The Designer shall have the authority to order minor changes in the Project consistent with the intent of the drawings and specifications and not involving an adjustment in the Guaranteed Maximum Price or change of the construction

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completion date. Such changes may be affected by written order only and shall be signed by the Owner and the CM prior to the work being performed.

7.1.3.5 IN THE EVENT THAT THE BIDS FOR THE CONSTRUCTION OF THE PROJECT ARE LESS THAN THE LINE ITEM(S) IN THE GMP FOR THE CONSTRUCTION OF THE PROJECT, THE GMP SHALL BE REDUCED DOLLAR FOR DOLLAR TO REFLECT THE SAVINGS. THE PARTIES AGREE THAT ANY SAVINGS BASED UPON THE RECEIPT OF BIDS SHALL BE RETAINED SOLELY BY THE OWNER.

7.1.4 UNUSED FUNDS

7.1.4.1 IN THE EVENT THAT THERE ARE ANY FUNDS REMAINING IN THE CM'S CONTINGENCY OR THE OWNER'S ALLOWANCE, THOSE FUNDS SHALL BE RETAINED SOLELY BY THE OWNER.

7.1.4.2 IN THE EVENT THAT ALL OF THE FUNDS ALLOCATED FOR THE CM'S GENERAL CONDITIONS ARE NOT USED, THE OWNER SHALL RETAIN ALL OF THOSE FUNDS.

7.1.4.3 IN THE EVENT THAT THERE ARE UNUSED ALLOWANCES OR OTHER COST OF WORK FUNDS, ALL OF THOSE FUNDS, PLUS THE ASSOCIATED CM FEE, SHALL BE RETAINED BY THE OWNER.

7.1.4.4 IN THE EVENT THAT THE BIDS FOR THE CONSTRUCTION OF THE PROJECT ARE LESS THAN THE LINE ITEM(S) IN THE GMP FOR THE CONSTRUCTION OF THE PROJECT, THE OWNER'S ALLOWANCE SHALL BE INCREASED DOLLAR FOR DOLLAR TO REFLECT THE SAVINGS. THE PARTIES AGREE THAT ANY SAVINGS BASED UPON THE RECEIPT OF BIDS SHALL BE RETAINED SOLELY BY THE OWNER

~~7.2 For service rendered up to and including the Design Phase and in the event the Owner does not request the CM to establish a Guaranteed Maximum Price or does not accept the CM's Guaranteed Maximum Price, the CM shall receive compensation for its services in accordance with Paragraph 7.3 (Cost Plus Fixed Fee) or Paragraph 7.4 (Lump Sum), as applicable.~~

~~7.3 Cost Plus Fixed Fee~~
~~The Owner shall compensate the CM on the basis of the CM's cost plus fixed fee and in accordance with the terms and conditions of this Agreement as specifically as follows:~~

~~7.3.1 Compensation for Basic Services~~
~~The CM shall be compensated for performing the Basic Services as described in Article 2 as follows:~~
~~7.3.1.1 A Fixed Fee of:~~
~~Dollars ($);~~

~~7.3.1.2 The cost of employees working on the Project, other than principals, in an amount which equals the multipliers as established in Paragraphs 7.2.1.3, 7.2.1.4, and 7.2.1.5, multiplied by the personnel expense for each such employee. Personnel expense for an employee shall be times the base hourly wage. Personnel expense includes the base hourly wage, payroll, taxes, employee benefits, Worker's Compensation insurance. The cost of the CM's principals shall be paid to the rate as specified in Paragraph 7.2.1.6. The specified multipliers and rates shall remain constant for a twelve month period following the date of this Agreement. Thereafter, the multipliers established in the referenced paragraphs shall be adjusted by the CM if the CM's personnel expense changes;~~

~~7.3.1.3 Employees assigned to the Project and working at the construction site or employees for which the Owner provides all office facilities and services, excluding the project manager and assistant project managers, a multiplier of ( );~~

~~7.3.1.4 Employees assigned to the Project and working in the CM's administrative office, including the project manager and assistant project managers, a multiplier of ( );~~

~~7.3.1.5 Construction and craft labor personnel stationed at the construction site, a multiplier of ( );~~

~~7.3.1.6 Principals of the CM who participate in the Project, a fixed rate of Dollars ($) per hour. The Principals to be compensated according to these terms are:~~

~~and~~

~~7.3.1.7 Independent engineers, architects and other consultants employed by the CM and performing services related to the Project, a multiplier of ( ), multiplied by the amount of the invoice for such services.~~

~~7.3.2 Direct Expenses~~

~~7.3.2.1 In addition to the compensation for Basic and Additional Services stated herein, the CM shall be reimbursed for direct expenses for performing its Basic and Additional Services. Direct expenses are those actual expenditures made by the CM, its principals, employees, independent engineers, architects, and other consultants in the interest of the Project, including, without limitation:~~

~~7.3.2.1.1 Long distance telephone calls, telegrams and fees paid for securing the approval of authorities having jurisdiction over the Project;~~

~~7.3.2.1.2 Handling, shipping, mailing and reproduction of materials and documents;~~

~~7.3.2.1.3 Transportation and living expenses when traveling in connection with the Project;~~

~~7.3.2.1.4 Computer equipment rental or service fees;~~

~~7.3.2.1.5 Computer software purchased;~~

~~7.3.2.1.6 Electronic data processing service and rental of electronic data processing equipment;~~

~~7.3.2.1.7 Word processing equipment rental;~~

~~7.3.2.1.8 Premiums for insurance beyond the limits normally carried by the CM that are required by the terms of this Agreement;~~

~~7.3.2.1.9 Relocation of employees and families;~~

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~~7.2.2.1.10 Temporary living expenses of employees who are not relocated, but assigned to the Project;~~

~~7.2.2.1.11 Gross receipts taxes, sales or use taxes, services taxes and other similar taxes required to be paid as a result of this Agreement;~~

~~7.2.2.1.12 Field office expenses including the cost of office rentals, field telephones, utilities, field office furniture, equipment and supplies;~~

~~7.2.2.1.13 Premium time work; and~~

~~7.2.2.14 Bond premiums.~~

~~7.2.2.2 The CM shall be compensated at cost plus a fee of ten (10) percent for its administrative expenses for the cost of materials, equipment, supplies and subcontractors related to General Conditions work that is provided by the CM at the request of the Owner. Any direct labor provided by the CM related to General Conditions work shall be paid to the CM in accordance with Paragraph 7.2.1.6.~~

~~7.2.3 Construction Manager's Accounting Records~~

~~7.2.3.1 Records for the CM's personnel expenses, independent engineer's, architect's and other consultant's fees and direct expenses pertaining to the Project shall be maintained on the basis of generally accepted accounting practices and shall be available for inspection by the Owner or the Owner's representative at mutually convenient times for a period of two years after completion of the CM's Basic Services.~~

~~7.3.4 Payments~~
~~Payments to the CM shall be made monthly, not later than fifteen (15) days after presentation of the CM's invoice to the Owner as follows:~~

~~7.3.4.1 Payment of the Fixed Fee as indicated in Paragraph 7.2.1.1 shall be in amounts prorated equally over the duration of the CM's Basic Services. The duration shall be as set out in Article 4;~~

~~7.3.4.2 Payment of personnel expense and the fixed hourly rate for principals shall be in amounts equal to the actual hours spent during the billing period on the Project multiplied by the rates and multipliers denoted in Paragraphs 7.2.1.2, 7.2.1.3, 7.2.1.4, 7.2.1.5 and 7.2.1.6;~~

~~7.3.4.3 Payment of independent engineer, architect and other consultant services shall be in amounts equal to the invoice in receipt by the CM for the billing period times the multiplier stated in Paragraph 7.2.1.7;~~

~~7.3.4.4 Reimbursement for direct expenses shall be in amounts equal to expenditures made during the billing period and during previous billing periods not yet invoiced;~~

~~7.3.4.5 No deductions shall be made from the CM's compensation due to any claim of the Owner, Contractors or others not a party to this Agreement or due to any liquidated damages, penalties, retainage or other sums withheld from payments to the Contractors or others not a party to this Agreement; and~~

~~7.3.4.6 Payments due to the CM that are unpaid for more than thirty (30) days from the date of the CM's invoice shall bear interest at the annual rate of _____% from the due date, compounded monthly.~~

~~7.3.5 Compensation for Additional Services~~
~~The CM shall be compensated and payments shall be made for performing Additional Services in the same amount and manner as provided in Article 7 for Basic Services. There shall be an increase in the Fixed Fee set out in Paragraph 7.2.1.1 in an amount that is mutually agreeable between the Owner and CM.~~

7.4 Lump Sum
The Owner shall compensate the CM for Basic Services on the basis of a Lump Sum in accordance with the terms and conditions of this Agreement as follows:

7.4.1 Compensation for Basic Services
The CM shall be compensated for performing Basic Services described in THE PRE-DESIGN PHASE (PARAGRAPH 3.2), DESIGN PHASE (PARAGRAPH 3.3) AND THE PROCUREMENT PHASE (PARAGRAPH 3.4) FOR ~~Article 3,~~ a total lump sum in the amount of [redacted] THAT SHALL BE DIVIDED BY THE NUMBER OF MONTHS SCHEDULED FOR THE BASIC SERVICES IN PARAGRAPHS 3.2, 3.3 AND 3.4 AND PAID IN EQUAL MONTHLY INSTALLMENTS AS THE SERVICES ARE PERFORMED. THE CM SHALL BE COMPENSATED FOR PERFORMING BASIC SERVICES DESCRIBED IN THE CONSTRUCTION PHASE (PARAGRAPH 3.5) AND POST-CONSTRUCTION PHASE (PARAGRAPH 3.6) FOR A TOTAL LUMP SUM IN THE AMOUNT OF [redacted] IN THE EVENT THERE ARE CHANGES IN THE WORK THAT REQUIRE AN ADJUSTMENT IN THE CM'S CONSTRUCTION/POST-CONSTRUCTION FEE, THE FEE ADJUSTMENT SHALL BE BASED UPON [redacted] OF THE COST OF THE WORK ADDED OR DELETED FROM THE PROJECT. THE FEE FOR THESE PHASES SHALL BE PAID IN PROPORTION TO THE PERCENTAGE OF THE ACTUAL COST OF THE WORK PAID BY THE OWNER. THE COST OF THE WORK AS USED IN THIS SECTION SHALL BE THE TOTAL DOLLAR AMOUNT OF THE CONSTRUCTION CONTRACTS AWARDED BY THE CM TO CONTRACTORS FOR THE PERFORMANCE OF THE WORK, MINUS ANY UNUSED ALLOWANCES OR OTHER DEDUCTIVE CHANGE ORDERS. THE CM'S CONTINGENCY SHALL NOT BE INCLUDED IN THE CALCULATION OR PAYMENT OF THE CM'S FEE. PROGRESS PAYMENTS FOR THE WORK PERFORMED BY THE CONTRACTORS SHALL BE PAID AS THE WORK IS PERFORMED AND APPROVED IN ACCORDANCE WITH THIS AGREEMENT. THE CM ACKNOWLEDGES THAT THE OWNER ONLY HAS FUNDS FOR THE BASIC SERVICES IN PARAGRAPHS 3.2, 3.3, AND 3.4 AT THE TIME THIS AGREEMENT IS BEING EXECUTED AND THAT THE CM IS NOT AUTHORIZED TO PERFORM ANY SERVICES IN PARAGRAPHS 3.5 AND 3.6 OR ANY OTHER PROVISIONS OF THIS AGREEMENT WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE OWNER, ~~which shall be paid in _____ monthly installments as follows:~~

7.4.2 Payments
Payments to the CM shall be made monthly, not later than ~~fifteen (15)~~ FORTY-FIVE (45) days after receipt of the CM's Invoice by the Owner.

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~~7.4.2.1 No deductions shall be made from the CM's compensation due to any claim of the Owner, Contractors or others not a party to this Agreement or due to any liquidated damages, retainage, penalties or other sums withheld from payments to the Contractors or others not a party to this~~ Agreement.

7.4.2.2 Payments due to the CM that are unpaid for more than ~~thirty~~ FORTY-FIVE (3045) days from the due date of the CM's invoice shall NOT bear interest from the due date.

7.4.3 Compensation for Additional Services
The CM shall be compensated and payments shall be made for performing Additional Services in an amount and on terms mutually agreeable between the Owner and CM.

7.4.4 AUDITING RIGHTS
THE CM SHALL KEEP ALL RECORDS AND SUPPORTING DOCUMENTATION WHICH CONCERN OR RELATE TO THE WORK, GENERAL CONDITIONS, OR OTHER MONIES PAID HEREUNDER FOR A MINIMUM OF THREE (3) YEARS FROM THE DATE OF TERMINATION OF THIS AGREEMENT OR THE DATE THE PROJECT ACHIEVES FINAL COMPLETION. THE CM SHALL REQUIRE ALL OF ITS **SUBCONTRACTORS** TO LIKEWISE RETAIN ALL OF THEIR PROJECT RECORDS AND SUPPORTING DOCUMENTATION. THE OWNER, AND ANY DULY AUTHORIZED AGENTS OR REPRESENTATIVES OF THE OWNER, SHALL BE PROVIDED ACCESS TO ALL SUCH RECORDS AND SUPPORTING DOCUMENTATION DURING NORMAL BUSINESS HOURS UPON REASONABLE REQUEST BY THE OWNER. FURTHER, THE OWNER, AND ANY DULY AUTHORIZED AGENTS OR REPRESENTATIVES OF THE OWNER, SHALL HAVE THE RIGHT TO AUDIT, **INSPECT** AND COPY ALL OF THE CM'S AND ANY CONTRACTOR'S PROJECT RECORDS AND DOCUMENTATION THESE ACCESS, INSPECTION, COPYING AND AUDITING RIGHTS SHALL SURVIVE THE TERMINATION OF THIS AGREEMENT.

7.5 Adjustments to the CM's Compensation
The CM shall ~~promptly~~ notify the Owner AS SPECIFIED IN THIS AGREEMENT when MATERIAL changes to the scope of the Project or a part thereof or when delays caused in whole or in part by the Owner or Designer ARE EXPECTED TO increase or extend THE PROJECT'S CRITICAL PATH OR the scope or duration of the CM's ~~Basic~~ Services. ~~The CM shall be entitled to receive additional compensation and an increase in the duration of this Agreement pursuant to the provision of Article 5 and consistent with the provisions of Article 7 of this Agreement.~~ IF THE CHANGE RESULTS IN A DELAY TO THE PROJECT'S CRITICAL PATH OR A MATERIAL INCREASE IN THE PROJECT'S SCOPE, THE CM SHALL BE ENTITLED TO RECEIVE AN INCREASE IN THE DURATION OF THIS AGREEMENT AND/OR ADDITIONAL COMPENSATION FOR THE CHANGE IN ACCORDANCE WITH THIS AGREEMENT.

7.6 LIQUIDATED DAMAGES

7.6.1 SHOULD THE CM FAIL TO SUBSTANTIALLY COMPLETE THE PROJECT OR PHASE ON OR BEFORE THE DATE STIPULATED FOR SUBSTANTIAL COMPLETION OF THE PROJECT (OR SUCH LATER DATE AS MAY RESULT FROM EXTENSION OF TIME GRANTED BY OWNER), THE CM SHALL PAY OR THE OWNER MAY RETAIN FROM THE FUNDS OTHERWISE TO BE PAID TO THE CM THE SUM OF **$ 500.00** AS SUBSTANTIAL COMPLETION LIQUIDATED DAMAGES FOR EACH CONSECUTIVE CALENDAR DAY BEYOND THE DATE ESTABLISHED IN THIS AGREEMENT THAT PROJECT FAILS TO ACHIEVE SUBSTANTIAL COMPLETION AS DEFINED IN THIS AGREEMENT, WHICH SUM IS AGREED UPON AS A REASONABLE AND PROPER MEASURE OF DAMAGES WHICH THE OWNER WILL SUSTAIN PER DAY BY FAILURE OF THE CM TO COMPLETE WORK WITHIN TIME AS STIPULATED; IT BEING RECOGNIZED BY THE OWNER AND THE CM THAT THE INJURY TO THE OWNER WHICH COULD RESULT FROM A FAILURE OF THE CM TO COMPLETE ON SCHEDULE IS UNCERTAIN AND CANNOT BE COMPUTED EXACTLY. THIS AMOUNT IS THE MINIMUM MEASURE OF DAMAGES THE OWNER WILL SUSTAIN DUE TO DELAY IN THE COMPLETION OF THE WORK, WHICH SHALL INCLUDE BUT NOT BE LIMITED TO THE LOSS OF USE OF THE FACILITIES, THE RELOCATION OF STUDENTS AND SERVICES, THE COST OF OWNER'S TIME AND RESOURCES, DAMAGE TO OWNER'S REPUTATION, AND STORAGE OF FURNITURE AND OTHER MATERIALS. THE INABILITY OF THE OWNER TO QUANTIFY ACTUAL DAMAGES SHALL NOT PREVENT THE RECOVERY OF LIQUIDATED DAMAGES.

7.6.2 FOR EACH CONSECUTIVE CALENDAR DAY THAT THE WORK REMAINS INCOMPLETE AFTER THE DATE ESTABLISHED FOR FINAL COMPLETION OF THE PROJECT, THE CM SHALL PAY OR OWNER WILL RETAIN FROM THE COMPENSATION OTHERWISE TO BE PAID TO THE CM THE SUM OF **$ 750.00** AS FINAL COMPLETION LIQUIDATED DAMAGES. THIS AMOUNT IS AGREED UPON AS A REASONABLE AND PROPER MEASURE OF DAMAGES THE OWNER WILL SUSTAIN DUE TO THE DELAY IN THE COMPLETION OF ALL REMEDIAL WORK, THE DELAY IN THE CORRECTION OF THE DEFICIENT WORK, THE DISRUPTION TO THE SCHOOL AND THE LEARNING ENVIRONMENT, THE COST OF OWNER'S TIME AND RESOURCES, DAMAGE TO OWNER'S REPUTATION, AND THE INABILITY TO USE THE FACILITIES FULLY. THIS AMOUNT IS IN ADDITION TO THE LIQUIDATED DAMAGES PRESCRIBED ABOVE FOR SUBSTANTIAL COMPLETION.

7.6.3 THE AMOUNT OF LIQUIDATED DAMAGES SET FORTH IN PARAGRAPHS 7.6.1 AND 7.6.2 HEREINABOVE SHALL BE ASSESSED CUMULATIVELY. THE ITEMS OF COST INCLUDED IN THE ASSESSMENT OF LIQUIDATED DAMAGES ARE DEFINED ABOVE. THIS PROVISION OF LIQUIDATED DAMAGES DOES NOT BAR OWNER'S RIGHT TO ENFORCE OTHER RIGHTS AND REMEDIES AGAINST CM, INCLUDING BUT NOT LIMITED TO, SPECIFIC PERFORMANCE OR INJUNCTIVE RELIEF. IN NO WAY SHALL COSTS FOR LIQUIDATED DAMAGES BE CONSTRUED AS A PENALTY TO THE CM.

7.6.4 NOTWITHSTANDING ANY OTHER PROVISIONS OF THE AGREEMENT, IF THERE IS CONCURRENT DELAY IN THE COMPLETION OF THE WORK, THE CM SHALL BE LIABLE FOR LIQUIDATED DAMAGES AS SPECIFIED IN THIS AGREEMENT DURING SUCH PERIOD OF CONCURRENT DELAY. FOR THE PURPOSE OF THIS SECTION 7.6, CONCURRENT DELAY MEANS (A) A DELAY EVENT CAUSED IN PART BY THE OWNER OR ITS AGENT AND IN PART BY THE CM OR ITS CONTRACTORS, SUBCONTRACTORS, SUB-SUBCONTRACTOS, OR (B) ONE OR MORE DELAY EVENT CAUSED SOLELY BY THE OWNER, ITS AGENTS, OR THE DESIGNER, AND ONE OR MORE DELAY EVENT CAUSED IN PART BY THE CM,

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SUBCONTRACTORS, SUB-SUBCONTRACTORS OR AGENTS, EACH OF WHICH WOULD HAVE RESULTED IN A DELAY WITHOUT THE OTHER AND WHICH DELAYS RUN CONCURRENTLY, OR AT THE SAME TIME. IN THE EVENT THAT THE FOREGOING PROVISION MAKING THE CM LIABLE FOR LIQUIDATED DAMAGES DURING A PERIOD OF CONCURRENT DELAY IS FOUND TO BE UNENFORCABLE, THEN THE PARTIES AGREE THAT IN THE EVENT OF A CONCURRENT DELAY, THE EXTENT OF THE DELAY WILL BE APPORTIONED BETWEEN THE OWNER AND THE CM, AND THE CM WILL BE RESPONSIBLE FOR LIQUIDATED DAMAGES AS SET FORTH IN THE SECTION 7.6 FOR THOSE PORTIONS OF THE DELAY WHICH ARE APPORTIONED TO THE CM, ITS SUBCONCTRACTORS, SUB-SUBCONTRACTORS, AGENTS OR MATERIAL SUPPLIERS.

7.6.54 THE AMOUNT OF LIQUIDATED DAMAGES SET FORTH IN PARAGRAPHS 7.6.1 AND 7.6.2 HEREINABOVE SHALL NOT INCLUDE ADDITIONAL LEGAL OR DESIGN PROFESSIONAL COSTS THAT MAY RESULT FROM THE CM'S DEFAULT. IF SUCH LEGAL OR DESIGN PROFESSIONAL COSTS ARE INCURRED BY THE OWNER, THE CM SHALL BE LIABLE TO THE OWNER FOR THOSE COSTS IN ADDITION TO THE LIQUIDATED DAMAGES AMOUNT SET FORTH HEREINABOVE AND IN 7.7 SUMMARY OF MONETARY AMOUNTS

7.7 THE FOLLOWING SUMMARY IS INTENDED TO PROVIDE A SINGLE LOCATION FOR ALL RELEVANT MONETARY AMOUNTS INCLUDED IN THIS AGREEMENT AS OF THE DATE OF EXECUTION OF THE AGREEMENT. THE FOLLOWING LIST SHALL TAKE PRECEDENCE OVER ANY INCONSISTENCIES IN THE AMOUNTS OTHERWISE INCORPORATED INTO THIS AGREEMENT. THE AMOUNTS IN THIS AGREEMENT SHALL ONLY BE REVISED BY WRITTEN AGREEMENT BETWEEN THE PARTIES. THE MONETARY AMOUNTS FOLLOW:

[redacted]

ARTICLE 8
INSURANCE AND MUTUAL INDEMNITY

8.1 CM's Liability Insurance

8.1.1 ~~The CM shall purchase and maintain such insurance that shall protect the CM from the claims set forth below that may arise out of or result from the CM's performance of services pursuant to this Agreement:~~
THE CM SHALL PURCHASE AT THEIR OWN EXPENSE AND MAINTAIN IN COMPANIES PROPERLY LICENSED BY THE DEPARTMENT OF INSURANCE OF THE STATE OF NORTH CAROLINA AND RATED "A" OR BETTER BY A.M. BEST COMPANY AS WILL PROTECT IT, THE OWNER, THE DESIGNER AND THEIR AGENTS, REPRESENTATIVES, AND EMPLOYEES FROM CLAIMS AS SET FORTH BELOW WHICH MAY ARISE OUT OF OR RESULT FROM THE CM'S OPERATIONS UNDER THE AGREEMENT, WHETHER SUCH OPERATIONS BE BY ITSELF OR BY ANY CONTRACTOR OR SUBCONTRACTOR OR BY ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM, OR BY ANYONE FOR WHOSE ACTS ANY OF THE MAY BE LEGALLY LIABLE:

8.1.1.1 ~~Claims under Workers' Compensation, disability benefits and other similar employee benefits acts that are applicable to the Work performed;~~
WORKER'S COMPENSATION INCLUDING OCCUPATIONAL DISEASE AND EMPLOYER'S LIABILITY INSURANCE.

8.1.1.1.1 STATUTORY COVERAGE AS REQUIRED BY THE STATE OF NORTH CAROLINA WORKER'S COMPENSATION LAWS.

8.1.1.1.2 EMPLOYER'S LIABILITY - AT LEAST $1,000,000 EACH ACCIDENT, $1,000,000 DISEASE - EACH EMPLOYEE, $1,000,000 DISEASE - POLICY LIMIT (OR SUFFICIENT LIMITS TO MEET THE REQUIREMENTS OF THE UMBRELLA INSURANCE.

8.1.1.2 Claims ~~for damages because of bodily injury, occupational sickness or disease or death of CM's employees under applicable employer's liability law;~~
COMMERCIAL GENERAL LIABILITY INSURANCE - THE CM SHALL OBTAIN AND MAINTAIN DURING THE LIFE OF THIS AGREEMENT SUCH COMMERCIAL GENERAL LIABILITY INSURANCE AS SHALL PROTECT IT AND ANY CONTRACTOR OR SUBCONTRACTOR PERFORMING WORK UNDER THIS AGREEMENT FROM CLAIMS FOR DAMAGES FOR BODILY INJURY INCLUDING ACCIDENTAL DEATH, AS WELL AS FROM CLAIMS FOR PROPERTY DAMAGE WHICH MAY ARISE EITHER FROM THE OPERATIONS OR FROM A CONTRACTOR OR SUBCONTRACTOR OR BY ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY THEM. THE CM SHALL PROCURE INSURANCE COVERAGE FOR DIRECT OPERATIONS, SUBLET WORK, ELEVATORS, CONTRACTUAL LIABILITY AND COMPLETED OPERATIONS WITH LIMITS NOT LESS THAN THOSE STATED BELOW:

8.1.1.2.1 BODILY INJURY & PROPERTY DAMAGE LIABILITY: $1,000,000 EACH OCCURRENCE.

8.1.1.2.2 PERSONAL INJURY & ADVERTISING LIABILITY - $1,000,000 EACH OCCURRENCE.

8.1.1.2.3 GENERAL AGGREGATE - $2,000,000

8.1.1.2.4 PRODUCTS/COMPLETED OPERATIONS AGGREGATE - $2,000,000

8.1.1.2.5 AGGREGATE LIMITS SHALL BE ENDORSED TO APPLY ON A PER PROJECT BASIS AS RESPECTS THIS AGREEMENT.

8.1.1.2.6 COMPLETED OPERATIONS LIABILITY. CONTINUOUS COVERAGE SHALL BE MAINTAINED IN FORCE FOR A PERIOD OF SIX (6) YEARS FOLLOWING THE DATE OF FINAL COMPLETION OF THE WORK.

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8.1.1.3 ~~Claims for damages because of bodily injury or death of any person other than CM's employees:~~
BUSINESS AUTOMOBILE LIABILITY INSURANCE, INCLUDING COVERAGE FOR OWNED, NON-OWNED AND HIRED VEHICLES (SYMBOL 1) - WITH LIMITS NOT LESS THAT THOSE STATED BELOW:

8.1.1.3.1 COMBINED SINGLE LIMIT FOR BODILY INJURY & PROPERTY DAMAGE $1,000,000 EACH ACCIDENT.

8.1.1.4 ~~Claims for damages insured by usual personal injury liability coverage that are sustained by any person as a result of an offense directly related to the employment of such person by the CM or by any other person.~~
EXCESS/UMBRELLA LIABILITY INSURANCE; POLICY TO "PAY ON BEHALF OF THE INSURED"
LIMITS OF LIABILITY: THE FOLLOWING SHALL APPLY BASED UPON THE ORIGINAL PROJECTED GMP:

GMP: < $25,000,000	$5,000,000
GMP: > $25,000,000	$10,000,000

UMBRELLA SHALL SCHEDULE AS UNDERLYING COVERAGE EMPLOYER'S LIABILITY, BUSINESS AUTO LIABILITY, AND COMMERCIAL GENERAL LIABILITY AT LIMITS REQUIRED IN SECTION 8.1.1 ABOVE.

8.1.1.5 ~~Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss or use therefrom; or~~
REQUIRED LIMITS MAY BE MET IN TOTAL BY ANY COMBINATION OF PRIMARY AND EXCESS/UMBRELLA LIMITS.

8.1.1.6 ~~Claims for damages because of bodily injury or death of any person or property damage arising out of ownership, maintenance or use of any motor vehicle;~~
CONTRACTOR'S PROFESSIONAL LIABILITY
CM SHALL OBTAIN AND MAINTAIN IN EFFECT DURING THE TERM OF THIS AGREEMENT CONTRACTOR'S PROFESSIONAL LIABILITY IN THE MINIMUM AMOUNT OF $2,000,000 EACH CLAIM, $2,000,000 POLICY AGGREGATE. COVERAGE MAY BE PLACED VIA COMBINED CONTRACTOR'S PROFESSIONAL AND POLLUTION LIABILITY POLICY OR BY SEPARATE POLICY. CONTINUOUS COVERAGE SHALL BE MAINTAINED IN FORCE FOR A PERIOD OF SIX (6) YEARS FOLLOWING THE DATE OF FINAL COMPLETION OF THE WORK. CM IS RESPONSIBLE FOR ANY APPLICABLE DEDUCTIBLE.

8.1.1.7 CONTRACTOR'S POLLUTION LIABILITY
CM SHALL OBTAIN AND MAINTAIN IN EFFECT DURING THE TERM OF THIS AGREEMENT A POLICY OF POLLUTION LIABILITY IN THE MINIMUM AMOUNT OF $5,000,000 EACH CLAIM, $5,000,000 POLICY POLLUTION POLICY AGGREGATE. THIS COVERAGE MAY BE PLACED VIA COMBINED CONTRACTOR'S PROFESSIONAL AND POLLUTION LIABILITY POLICY, SEPARATE CONTRACTOR'S POLLUTION LIABILITY POLICY OR BY USE OF THE LIMITED JOBSITE POLLUTION LIABILITY ENDORSEMENT TO THE COMMERCIAL GENERAL LIABILITY POLICY. CONTINUOUS COVERAGE SHALL BE MAINTAINED IN FORCE FOR A PERIOD OF SIX (6) YEARS FOLLOWING THE DATE OF FINAL COMPLETION OF THE WORK. CM IS RESPONSIBLE FOR ANY APPLICABLE DEDUCTIBLE.

8.1.1.8 IF THE PROJECT INCLUDES ANY ENVIRONMENTAL ABATEMENT OR REMEDIATION WORK (E.G. ASBESTOS, MOLD, LEAD PAINT, OR UST), THE CM SHALL OBTAIN AND MAINTAIN IN EFFECT DURING THE TERM OF THIS AGREEMENT POLICIES FOR POLLUTION LIABILITY COVERING THIS SPECIFIC TYPE OF WORK, WHICH POLICIES SHALL PROTECT THE OWNER AND CM FROM CLAIMS IN AN AMOUNT NOT LESS THAN $5,000,000 FOR EACH CLAIM. COVERAGE MAY BE PROCURED DIRECTLY BY THE CM OR THROUGH POLICY PLACED ON BEHALF OF THE ENVIRONMENTAL ABATEMENT SUBCONTRACTOR.

8.1.2 ~~The CM's commercial general and motor vehicle liability insurance, as required by Paragraph 8.1.1, shall be written for not less than the following limits of liability:~~

~~a. Commercial General Liability~~

~~1. Personal Injury:~~
~~$1,000,000 Each Occurrence~~
~~$2,000,000 Aggregate~~

~~2. Property Damage:~~
~~$1,000,000 Each Occurrence~~
~~$2,000,000 Aggregate~~

~~b. Commercial Motor Vehicle Liability~~

~~1. Bodily Injury:~~
~~$1,000,000 Each Person~~
~~$2,000,000 Each Occurrence~~

~~2. Property Damage:~~
~~$1,000,000 Each Occurrence~~

~~C. COMPLETED OPERATIONS LIABILITY~~
~~1. Personal Injury:~~
~~$1,000,000 Each Occurrence~~
~~$2,000,000 Aggregate~~

~~2. Property Damage:~~
~~$1,000,000 Each Occurrence~~
~~$2,000,000 Aggregate~~

8.1.2 CM'S BUSINESS, AUTO, COMMERCIAL GENERAL LIABILITY, BUILDER'S RISK AND EXCESS/UMBRELLA POLICIES SHALL INCLUDE AN ENDORSEMENT NAMING THE OWNER, NEW HANOVER BOARD OF EDUCATION, AS ADDITIONAL INSURED. THE ADDITIONAL INSURED ENDORSEMENT FOR COMMERCIAL LIABILITY SHALL SPECIFY COVERAGE ON A PRIMARY AND NON-CONTRIBUTORY BASIS AND INCLUDED COMPLETED OPERATIONS. ALL INSURANCE POLICIES SHALL BE ENDORSED TO PROVIDE FOR WAIVER OF SUBROGATION IN FAVOR OF OWNER. ALL INSURANCE POLICIES SHALL CONTAIN AN ENDORSEMENT PROVIDING THE COVERAGE AFFORDED UNDER THE POLICIES WILL NOT BE CANCELED UNTIL AT LEAST THIRTY (30) DAYS' PRIOR WRITTEN NOTICE HAS BEEN GIVEN TO THE OWNER. ENDORSEMENTS ABOVE MAY BE PROVIDED ON A PROJECT SPECIFIC OR BLANKET BASIS AS REQUIRED BY WRITTEN CONTRACT.

8.1.3 ~~Commercial general liability insurance may be arranged under a single policy for the full limits required or by a~~

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~~combination of underlying policies with the balance provided by an excess or umbrella liability policy.~~
CERTIFICATES OF INSURANCE ACCEPTABLE TO THE OWNER SHALL BE FILED WITH THE OWNER BY THE START DATE ESTABLISHED IN THE MASTER SCHEDULE AND THEREAFTER ON RENEWAL OR REPLACEMENT OF EACH REQUIRED POLICY OF INSURANCE. THE CERTIFICATE OF INSURANCE SHALL CERTIFY THE EXISTENCE OF ALL REQUIRED POLICIES WHICH SATISFY THE REQUIREMENTS LISTED IN SECTION 8.1 ABOVE. THE FOLLOWING LANGUAGE SHALL BE TYPED INTO THE SECTION OF THE CERTIFICATE OF INSURANCE LABELED DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS: "POLICIES CERTIFIED ON THIS CERTIFICATE HAVE BEEN AMENDED BY SPECIFIC OR BLANKET ENDORSEMENT TO PROVIDE 30 DAYS PRIOR NOTICE OF CANCELLATION TO OWNER." UPDATED CERTIFICATES OF INSURANCE SHALL BE MAINTAINED ON FILE WITH OWNER AND BY CM THROUGHOUT THE TERM OF THE WORK AND FOR A PERIOD OF SIX (6) YEARS FROM THE DATE OF FINAL COMPLETION OF THE WORK.

NOTWITHSTANDING ANY PROVISION ABOVE, CONTRACTOR SHALL PROVIDE AT LEAST FIVE (5) BUSINESS DAYS DIRECT PRIOR NOTICE TO OWNER OF THE CANCELLATION, NON-RENEWAL (WITHOUT REPLACEMENT), OR THE MATERIAL REDUCTION OF COVERAGE OR LIMITS OF ANY POLICY OF INSURANCE REQUIRED BY SECTION 8.1.1 ABOVE AND FOR A TERM OF SIX (6) YEARS FOLLOWING THE DATE OF FINAL COMPLETION OF THE WORK.

8.1.4 ~~The foregoing policies shall contain a provision that coverages afforded under the policies shall not be cancelled or expire until at least thirty (30) days written notice has been given to the Owner shall include either a liability endorsement covering this Agreement or an endorsement making the Owner an additional insured under the policies. Certificates of Insurance showing such coverages to be in force, shall be filed with the Owner prior to commencement of the CM's services.~~
THE CM SHALL NOT ALLOW ANY CONTRACTOR OR SUBCONTRACTOR TO COMMENCE WORK ON ITS CONTRACT UNTIL ALL SIMILAR INSURANCE REQUIRED OF THE CONTRACTOR OR SUBCONTRACTOR HAS BEEN SO OBTAINED AND A CERTIFICATE OF INSURANCE HAS BEEN FILED WITH THE CM. CM SHALL DETERMINE AND APPROVE THE EXCESS/UMBRELLA LIABILITY INSURANCE REQUIREMENTS AND THE TERM FOR CERTIFICATION OF COMPLETED OPERATIONS LIABILITY (FOLLOWING THE DATE OF FINAL COMPLETION) FOR ALL CONTRACTORS AND SUBCONTRACTORS. APPROVAL OF THE INSURANCE BY THE OWNER SHALL NOT RELIEVE OR DECREASE THE LIABILITY OF THE CM HEREUNDER. FAILURE OF THE CM TO PROVIDE ALL REQUIRED CERTIFICATES COULD DELAY THE ISSUANCE OF NOTICE TO PROCEED. SUCH DELAY SHALL NOT ENTITLE THE CM TO AN EXTENSION OF ANY MILESTONE OR COMPLETION DATES REQUIRED BY THE MASTER SCHEDULE.

8.2 Builder's Risk Insurance

8.2.1 ~~The CM shall be responsible for purchasing and maintaining insurance to protect the Project from perils of physical loss. The insurance shall provide for the full cost of replacement for the entire Project at the time of any loss. The insurance shall include as named insureds the Owner, the CM, the Contractors and their subcontractors and shall insure against the loss from the perils of fire and all risk coverage for physical loss or damage due to theft, vandalism, collapse, malicious mischief, transit, flood, earthquake, testing, defective design, negligent workmanship or defective material. The CM shall increase the coverage limits as necessary to reflect changes in the estimated replacement cost.~~
THE CM SHALL PURCHASE AND AT ALL TIMES MAINTAIN SUCH INSURANCE AS WILL PROTECT THE CM, THE OWNER, THE OWNER'S REPRESENTATIVES, AGENTS AND EMPLOYEES, THE DESIGNER, CONTRACTORS AND SUBCONTRACTORS FROM LOSS OR DAMAGE TO WORK OR PROPERTY IN THE COURSE OF CONSTRUCTION, INCLUDING ALL MACHINERY, MATERIALS AND SUPPLIES ON THE PREMISES, IN STORAGE OR IN TRANSIT AND INTENDED TO BECOME A PART OF THE FINISHED WORK UNTIL FINAL PAYMENT HAS BEEN MADE OR UNTIL NO PERSON OR ENTITY OTHER THAN THE OWNER HAS AN INSURABLE INTEREST IN THE PROPERTY TO BE COVERED BY THIS INSURANCE, WHICHEVER IS SOONER. THIS INSURANCE SHALL BE IN THE FORM OF "BUILDER'S RISK" POLICY INSURING "RISKS OF DIRECT PHYSICAL LOSS EXCEPT THOSE AS SPECIFICALLY EXCLUDED BY THE POLICY", OR EQUIVALENT. THE POLICY SHALL NOT EXCLUDE THE PERILS OF FIRE, LIGHTNING, EXPLOSION, WINDSTORM, HAIL, SMOKE, AIRCRAFT, VEHICLES, VANDALISM, THEFT, MALICIOUS MISCHIEF, RIOT, DEBRIS REMOVAL, FLOOD, WATER DAMAGE, EARTHQUAKE, EARTH MOVEMENT, TESTING, ARCHITECT'S AND ENGINEERING FEES, MECHANICAL OR ELECTRICAL BREAKDOWN, COLLAPSE HOWEVER CAUSED, AND/OR DAMAGE RESULTING FROM DEFECTIVE DESIGN, WORKMANSHIP OR MATERIAL. LIMITS SHALL BE WRITTEN FOR THE VALUE OF THE GMP AND INSURE THE FULL COST OF REPLACEMENT AT THE TIME OF LOSS. SUB-LIMITS FOR FLOOD OR EARTHQUAKE ARE SUBJECT TO APPROVAL BY OWNER. THE CM SHALL CAUSE SUCH POLICY OR POLICIES OF INSURANCE REQUIRED UNDER THIS SUBPARAGRAPH TO BE ENDORSED SO AS TO PROVIDE THAT THE INSURER OR INSURERS WAIVE ANY RIGHT OF SUBROGATION AGAINST THE OWNER. NOTWITHSTANDING ANY DEDUCTIBLE PROVISION, THE CM SHALL REMAIN SOLELY LIABLE FOR THE FULL REPLACEMENT COST OF ANY ITEM COVERED BY SUCH INSURANCE, INCLUDING ANY APPLICABLE DEDUCTIBLE OR CO-INSURANCE PENALTY. PRIOR TO COMMENCEMENT OF WORK, CM SHALL PROVIDE TO OWNER A COPY OF THE BUILDER'S RISK POLICY OBTAINED IN COMPLIANCE WITH SECTION 8.2.1.

8.2.2 ALL INSURANCE COMPANIES PROVIDING THE ABOVE INSURANCE SHALL BE PROPERLY LICENSED BY THE DEPARTMENT OF INSURANCE OF THE STATE OF NORTH CAROLINA AND RATED "A" OR BETTER BY A.M. BEST COMPANY.

8.2.3 ANY LOSS INSURED UNDER SUBPARAGRAPH 8.2.1 IS TO BE ADJUSTED WITH THE OWNER AND MADE PAYABLE TO THE OWNER AS TRUSTEE FOR THE INSURED, AS THEIR INTERESTS MAY APPEAR, SUBJECT TO THE REQUIREMENTS OF ANY APPLICABLE MORTGAGEE CLAUSE AND OF SUBPARAGRAPH 8.2.5. THE CM SHALL PAY EACH CONTRACTOR AND/OR SUBCONTRACTOR A JUST SHARE OF ANY INSURANCE MONEYS RECEIVED BY THE CM, AND BY APPROPRIATE AGREEMENT, WRITTEN WHERE LEGALLY REQUIRED

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FOR VALIDITY, SHALL REQUIRE EACH CONTRACTOR OR SUBCONTRACTOR TO MAKE PAYMENTS IN SIMILAR MANNER.

8.2.4 THE OWNER AND CM WAIVE ALL RIGHTS AGAINST EACH OTHER FOR DAMAGES CAUSED BY FIRE OR OTHER PERILS TO THE EXTENT COVERED BY INSURANCE OBTAINED PURSUANT TO THIS PARAGRAPH 8.2, OR ANY OTHER PROPERTY INSURANCE APPLICABLE TO THE WORK, EXCEPT SUCH RIGHTS AS THEY MAY HAVE TO THE PROCEEDS OF SUCH INSURANCE HELD BY THE OWNER AS TRUSTEE. THE CM SHALL REQUIRE, BY APPROPRIATE AGREEMENT, WRITTEN WHERE LEGALLY REQUIRED FOR VALIDITY, SIMILAR WAIVERS IN FAVOR OF THE OWNER AND THE CM BY CONTRACTORS AND SUBCONTRACTORS. WITH RESPECT TO THE WAIVER OF RIGHTS OF RECOVERY, THE TERM OWNER SHALL BE DEEMED TO INCLUDE, TO THE EXTENT COVERED BY PROPERTY INSURANCE APPLICABLE THERETO, ITS CONSULTANTS, EMPLOYEES, AND AGENTS AND REPRESENTATIVES. THE CM WAIVES AS AGAINST ANY SEPARATE CONTRACTOR ALL RIGHTS FOR DAMAGES CAUSED BY FIRE OR OTHER PERILS IN THE SAME MANNER AS IS PROVIDED ABOVE AS AGAINST THE OWNER. THE OWNER SHALL REQUIRE, BY APPROPRIATE AGREEMENT, WRITTEN WHERE LEGALLY REQUIRED FOR VALIDITY, SIMILAR WAIVERS IN FAVOR OF THE CM BY ANY SEPARATE CONTRACTOR AND ITS SUBCONTRACTORS.

8.2.5 IF REQUIRED IN WRITING BY ANY PARTY IN INTEREST, THE OWNER AS TRUSTEE SHALL, UPON THE OCCURRENCE OF AN INSURED LOSS, GIVE BOND FOR THE PROPER PERFORMANCE OF ITS DUTIES. IT SHALL DEPOSIT IN A SEPARATE ACCOUNT ANY MONEY SO RECEIVED, AND IT SHALL DISTRIBUTE IT IN ACCORDANCE WITH SUCH AGREEMENT AS THE PARTIES IN INTEREST MAY REACH, OR IN ACCORDANCE WITH A COURT ORDER OR AWARD. IF AFTER SUCH LOSS NO OTHER SPECIAL AGREEMENT IS MADE, REPLACEMENT OF DAMAGED WORK SHALL BE COVERED BY AN APPROPRIATE CHANGE ORDER.

8.2.6 THE OWNER AS TRUSTEE SHALL HAVE POWER TO ADJUST AND SETTLE ANY LOSS WITH THE INSURERS UNLESS ONE OF THE PARTIES IN INTEREST SHALL OBJECT IN WRITING WITHIN FIVE (5) DAYS AFTER THE OCCURRENCE OF LOSS TO THE OWNER'S EXERCISE OF THIS POWER, AND IF SUCH OBJECTION IS MADE, THE MATTER SHALL BE DECIDED BY A COURT OF COMPETENT JURISDICTION OR AS THE PARTIES IN INTEREST OTHERWISE AGREE. THE OWNER AS TRUSTEE SHALL, IN THAT CASE, MAKE SETTLEMENT WITH THE INSURERS IN ACCORDANCE WITH THE ORDERS OF THE COURT OR AS OTHERWISE AGREED BY THE PARTIES IN INTEREST.

8.2.7 IF THE OWNER FINDS IT NECESSARY TO OCCUPY OR USE A PORTION OR PORTIONS OF THE WORK PRIOR TO SUBSTANTIAL COMPLETION THEREOF, SUCH OCCUPANCY OR USE SHALL NOT COMMENCE PRIOR TO A TIME MUTUALLY AGREED TO BY THE OWNER AND CM AND TO WHICH THE INSURANCE COMPANY OR COMPANIES PROVIDING THE PROPERTY INSURANCE HAVE CONSENTED BY ENDORSEMENT TO THE POLICY OR POLICIES. THIS INSURANCE SHALL NOT BE CANCELED OR LAPSED ON ACCOUNT OF SUCH PARTIAL OCCUPANCY OR USE. CONSENT OF THE CM AND OF THE INSURANCE COMPANY OR COMPANIES TO SUCH OCCUPANCY OR USE SHALL NOT BE UNREASONABLY WITHHELD.

8.3 ~~Property Insurance~~ INDEMNITY

8.3.1 ~~If the Project includes an addition to or is adjacent to an existing structure, the CM, the Contractors and the subcontractors shall be named as additional insureds for the Owner's property insurance covering such structure and its contents.~~
TO THE FULLEST EXTENT PERMITTED BY LAW, THE CM SHALL, AT ITS SOLE COST AND EXPENSE, INDEMNIFY, DEFEND, AND HOLD HARMLESS THE OWNER AND DESIGNER AND THEIR AGENTS, REPRESENTATIVES, AND EMPLOYEES FROM AND AGAINST ALL CLAIMS, ACTIONS, JUDGMENTS, COSTS, LIABILITIES, PENALTIES, DAMAGES, LOSSES AND EXPENSES, INCLUDING BUT NOT LIMITED TO ATTORNEYS' FEES, ARISING OUT OF AND/OR RESULTING FROM THE PERFORMANCE OF THE WORK BY THE CM, ANY CONTRACTOR OR SUBCONTRACTOR, ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM OR ANYONE FOR WHOSE ACTS ANY OF THEM MAY BE LEGALLY LIABLE. THE ABOVE OBLIGATION SHALL NOT BE CONSTRUED TO NEGATE, ABRIDGE, OR OTHERWISE REDUCE ANY OTHER RIGHT OR OBLIGATION OF INDEMNITY WHICH WOULD OTHERWISE EXIST AS TO ANY PARTY OR PERSON DESCRIBED IN THIS PARAGRAPH 8.3.1. THE PARTIES AGREE THAT THIS INDEMNIFICATION CLAUSE IS AN "EVIDENCE OF INDEBTEDNESS" FOR PURPOSE OF N.C. GEN. STAT. § 6-21.2. THE PARTIES ALSO SPECIFICALLY ACKNOWLEDGE THAT THE OWNER IS A PUBLIC BODY AND IT IS THE INTENT OF THE PARTIES THAT THE OWNER NOT INCUR ANY EXPENSES WHEN THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CLAIMS.

8.3.2 ~~If the Owner occupies or uses a part or parts of the Project prior to substantial completion thereof, such occupancy shall not occur until the Owner obtains property insurance for the structure and until all insurance companies providing insurance for the Project consent to such occupancy by endorsement to the insurance policies.~~ IN ANY AND ALL CLAIMS AGAINST THE OWNER OR THE DESIGNER OR ANY OF THEIR AGENTS, REPRESENTATIVES, OR EMPLOYEES BY ANY EMPLOYEE OF THE CM, ANY CONTRACTOR OR SUBCONTRACTOR, ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM OR ANYONE FOR WHOSE ACTS ANY OF THEM MAY BE LIABLE, THE INDEMNIFICATION OBLIGATION UNDER PARAGRAPH 8.3.1 SHALL NOT BE LIMITED IN ANY WAY BY ANY LIMITATION ON THE AMOUNT OR TYPE OF DAMAGES, COMPENSATION OR BENEFITS PAYABLE BY OR FOR THE CM OR ANY CONTRACTOR OR SUBCONTRACTOR FROM ANY OF THE INSURANCE COVERAGE REQUIRED IN SECTION 8.1 HEREIN.

8.3.3 THE OWNER HEREBY INDEMNIFIES AND HOLDS HARMLESS THE CM AND ITS EMPLOYEES, AGENTS, AND REPRESENTATIVES FROM AND AGAINST ANY AND ALL CLAIMS, DEMANDS, SUITS AND DAMAGES FOR BODILY INJURY AND PROPERTY DAMAGE CAUSED SOLELY BY THE OWNER THAT ARISE OUT OF OR RESULT SOLELY FROM BREACH OF THIS AGREEMENT OR FROM NEGLIGENT ACTS, ERRORS OR OMISSIONS OF THE OWNER, AND ITS EMPLOYEES.

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8.3.4 THE CM SHALL CAUSE EACH CONTRACTOR AND SUBCONTRACTOR TO INDEMNIFY AND HOLD HARMLESS THE OWNER, CM, AND DESIGNER FROM AND AGAINST ANY AND ALL CLAIMS, DEMANDS, SUITS, DAMAGES RESULTING FROM BODILY INJURY, PERSONAL INJURY, DAMAGE TO TANGIBLE PROPERTY (INCLUDING LOSS OF USE), COSTS, AND EXPENSES AND FEES THAT ARE ASSERTED AGAINST THE OWNER, CM, AND THE DESIGNER AND THAT ARISE OUT OF OR RESULT FROM NEGLIGENT ACTS, ERRORS OR OMISSIONS OR THE BREACH OF THE CONSTRUCTION CONTRACT BY THE CONTRACTOR OR SUBCONTRACTOR, ITS EMPLOYEES, AGENTS, AND REPRESENTATIVES IN PERFORMING THE WORK.

~~8.4 Owner's Insurance~~

~~8.4.1 The CM shall be named as an additional insured in any insurance policy for the Project that may be obtained by the Owner.~~

8.4 PERFORMANCE AND PAYMENT BONDS

8.4.1 WITHIN 10 DAYS OF THE ESTABLISHMENT OF THE FINAL GMP VIA CHANGE ORDER, THE CM SHALL PROVIDE A PERFORMANCE BOND AND PAYMENT BOND EACH IN THE AMOUNT OF THE GMP, MINUS THE OWNER'S ALLOWANCE. THE AMOUNT OF THE PERFORMANCE AND PAYMENT BONDS MAY BE ADJUSTED IF THE GUARANTEED MAXIMUM PRICE IS REDUCED AFTER THE BIDS ARE RECEIVED.

8.4.2 ALL INSURANCE COMPANIES PROVIDING THE ABOVE BONDS SHALL BE PROPERLY LICENSED BY THE DEPARTMENT OF INSURANCE OF THE STATE OF NORTH CAROLINA AND RATED "A" OR BETTER BY A.M. BEST COMPANY. THE BONDS SHALL BE IN THE FORM APPROVED BY THE OWNER AND ATTACHED HERETO AS APPENDIX E.

~~8.5 Notices and Recovery~~

~~8.5.1 The Owner and CM each shall provide the other OWNER with copies of all policies thus obtained for the Project. Each party shall provide the other with sixty (60) days notice of cancellation, non-renewal or endorsement reducing or restricting coverage.~~

~~8.6 Waiver of Subrogation~~

~~8.6.1 The Owner and the CM waive all rights against each other and against the Contractors, the Designer, and consultants, agents and employees of the other for damages occurring during construction and covered by any property insurance required for this Project. The Owner and the CM shall each require appropriate similar waivers from their contractors, designers, consultants and agents.~~

~~8.7 Indemnity~~

~~8.7.1 To the fullest extent permitted by law, the CM shall indemnify and hold harmless the Owner, its employees, agents, officers, directors and partners from and against any and all damages arising from bodily injury or property damage and reasonable attorneys' fees incurred by the Owner caused solely by the negligent act, error or omission of the CM, or any other party for whom the CM is legally liable, in performance of services under this Agreement. The CM shall procure and maintain insurance as required by and set forth in this Agreement. Notwithstanding any other provision of this Agreement, and to the fullest extent permitted by law, the total liability, in the aggregate, of the CM and its officers, directors, partners, employees, and agents to the Owner and anyone claiming by, through or under the Owner, for any and all claims, losses, costs or damages whatsoever arising out of, resulting from or in any way related to the Project or this Agreement from any cause or causes, including but limited to the negligence, professional errors or omissions, strict liability or breach of contract or warranty (express or implied) of the CM and its officers, directors, partners, employees, and agents, (hereafter "the Owner's claims"), shall not exceed the total available insurance proceeds available to be paid by the CM's insurers in settlement or satisfaction of the Owner's claims under the terms and conditions of the CM's insurance policies applicable thereto (excluding fees, costs and expenses of investigation, claims adjustment, defense and appeal).~~

~~8.7.2 The Owner shall cause the Designer to indemnify and hold harmless the Owner, its employees, agents and representatives to the same extent and in the same manner that CM has provided indemnification for the Owner under Paragraph 8.7.1.~~

~~8.7.3 The Owner hereby indemnifies and holds harmless the CM and its employees, agents and representatives from and against any and all claims, demands, suits and damages for bodily injury and property damage for which the Owner is liable that arise out of or result from breach of this Agreement or negligent acts or omissions of the Owner, its employees, agents, representatives, independent contractors, suppliers, and the Designer.~~

~~8.7.4 The CM shall cause the Contractor to indemnify and hold harmless the Owner, CM and Designer from and against any and all claims, demands, suits, damages, including consequential damages and damages resulting from personal injury or property damage, costs, and expenses and fees that are asserted against the Owner, CM and the Designer and that arise out of or result from negligent acts or omissions or the breach of the Construction Contract by the Contractor, its employees, agents and representatives in performing the Work.~~

ARTICLE 9
~~TERMINATION AND~~ SUSPENSION

~~9.1 Termination~~

~~9.1.1 This Agreement may be terminated by the Owner for convenience after seven (7) days written notice to the CM.~~

~~9.1.2 This Agreement may be terminated by either party hereto upon seven (7) days written notice should the other party fail substantially to perform in accordance with the terms hereof through no fault of the terminating party or if the Project in whole or substantial part is stopped for a period of sixty (60) days under an order of any court or other public authority having jurisdiction or as a result of an act of government.~~

~~9.1.3 In the event of termination pursuant to Paragraph 9.1.1, the CM shall be paid its compensation for services performed~~

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to the date of termination, services of professional consultants then due, direct expenses and all termination expenses. Termination expenses are defined as those expenses arising prior, during and subsequent to termination that are directly attributable to the termination, plus an amount computed as a percentage of the total compensation earned at the time of termination as follows:

9.1.3.1 Twenty (20) percent if the termination occurs during the Pre-Design Phase, Design Phase, or Procurement Phase; or

9.1.3.2 Ten (10) percent if the termination occurs during the Construction Phase or Post-Construction Phase.

9.1.4 In the event of termination pursuant to Paragraph 9.1.2, the CM shall be paid its compensation for services performed to the date of termination, services of professional consultants then due, direct expenses and all termination expenses. No amount computed as provided in Paragraphs 9.1.3.1 and 9.1.3.2 shall be paid in addition, if the termination is due to the CM's failure to substantially perform in accordance with the terms of this Agreement.

9.2 Suspension

9.2.1 The Owner may order, in writing, the CM to suspend all or any part of the CM's services for the Project for the convenience of the Owner or for work stoppage beyond the control of the Owner or the CM. If the performance of all or any part of the services for the Project is suspended, THE OWNER AND CM MAY NEGOTIATE an adjustment in the CM's compensation shall be made for the increase, if any, in the cost of the CM's performance of this Agreement caused by such suspension and this Agreement shall MAY be modified in writing accordingly.

9.2.2 In the event the CM's services on the Project are suspended, the Owner shall reimburse the CM for all of the costs of its construction site staff, assigned Project home office staff and other costs provided for by this Agreement for the first thirty (30) SEVEN (7) days of such suspension. The CM shall reduce the size of such REASSIGN THE staff for the remainder of the suspension period as UNLESS directed OTHERWISE by the Owner IN WRITING and during such period, IF THE OWNER DIRECTS THE CM TO MAINTAIN ALL OR PART OF ITS STAFF, the Owner shall reimburse the CM for all costs of reduced staff REMAINING DEDICATED TO THE PROJECT. Upon cessation of the suspension, the CM shall restore the construction site and home office staff to its former size.

9.2.3 Persons assigned to another project during such suspension or period and not available to return to this Project upon cessation of the suspension shall be replaced. The Owner shall reimburse the CM for costs incurred in relocating staff persons returning to the Project or new persons assigned to the Project.

9.2.4 If the Project is suspended by the Owner for more than three (3) months, the CM shall be paid compensation for services performed prior to receipt of written notice from the Owner of such suspension, together with direct expenses then due and all expenses and costs directly resulting from such suspension. If the Project is resumed after being suspended for more than six (6) months, the CM shall have the option of requiring THE RIGHT TO REQUEST that its compensation, including rates and fees, be renegotiated. Subject to the provisions of this Agreement relating to termination, a delay or suspension of the Project does not void this Agreement.

ARTICLE 10
DISPUTE RESOLUTION TERMINATION

10.1 Arbitration

10.1.1 All claims, disputes or controversies arising out of or relating to the Project or to this Agreement or the breach thereof shall be decided by arbitration in accordance with the Construction Industry Rules of the American Arbitration Association then obtaining unless the parties mutually agree otherwise. No arbitration arising out of or relating to this Agreement shall include by consolidation, joinder or in any other manner the Designer or its employees or consultants except by written consent containing a specific reference to this Agreement and signed by the Designer. An arbitration arising out of or relating to the Contract Documents or this Agreement to arbitrate may include consolidation or joinder the Contractors and other persons substantially involved in a common question of fact or law whose presence is required if complete relief is to be accorded in arbitration. No person or entity other than the Contractors shall be included as an original third party or additional third party to an arbitration whose interest or responsibility is insubstantial. Consent to arbitration involving the Designer shall not constitute consent to arbitration of any dispute not described therein or with any person not named therein. This agreement to arbitrate and any agreement to arbitrate with an additional person or persons duly consented to by the parties to this Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

10.1.2 Notice demand for arbitration shall be filed in writing with the other party to this Agreement in accordance with the rules of the American Arbitration Association. The demand shall be made within a reasonable time after the claim, dispute, or other matter in question would be barred by the applicable statutes of limitation.

10.1.3 In any judicial proceeding to enforce this agreement to arbitrate, the only issues to be determined shall be those set forth in 9 U.S.C. Section 4 Federal Arbitration Act and such issues shall be determined by the court without a jury. All other issues, such as, but not limited to, arbitrability, prerequisites to arbitration, compliance with contractual time limitations, applicability of indemnity clauses, clauses limiting damages and statutes of limitation shall be for the arbitrators whose decision thereon shall be final and binding. There shall be no interlocutory appeal of an order compelling arbitration.

10.1.4 All demands for arbitration and answering statements thereto which include any monetary claim must contain a statement that the total sum or value in controversy as alleged by the party making such demand or answering statement is not more than $_____ (exclusive of interest and costs). The arbitrators will not have jurisdiction, power or authority to consider, or make findings (except in denial of their own jurisdiction) concerning any claim, counterclaim, dispute or other matter in question where the amount in controversy of any such claim, counterclaim, dispute or matter is more than $_____ (exclusive of interest and costs), or to render a monetary award in response thereto against any party which totals more

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~~than $_____ (exclusive of interest and costs).~~

~~10.1.5 The award rendered by the arbitrators shall be final and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.~~

10.1 TERMINATION BY THE CM

10.1.1 IF THE WORK IS STOPPED FOR A PERIOD OF ONE HUNDRED EIGHTY (180) DAYS BY THE OWNER OR UNDER AN ORDER OF ANY COURT OR OTHER PUBLIC AUTHORITY HAVING JURISDICTION, OR AS A RESULT OF AN ACT OF GOVERNMENT, SUCH AS A DECLARATION OF A NATIONAL EMERGENCY MAKING MATERIALS UNAVAILABLE, AND THROUGH NO ACT OR FAULT OF THE CM OR A CONTRACTOR OR THEIR AGENTS OR EMPLOYEES OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK UNDER A CONTRACT WITH THE CM, THEN THE CM MAY, UPON SEVEN (7) ADDITIONAL DAYS' WRITTEN NOTICE TO THE OWNER AND THE DESIGN CONSULTANT, TERMINATE THE CONTRACT AND RECOVER FROM THE OWNER PAYMENT FOR ALL WORK EXECUTED. THE CM SHALL NOT BE ENTITLED TO COLLECT AND HEREBY EXPRESSLY WAIVES ANY PROFIT ON WORK NOT PERFORMED AND ANY DAMAGES RELATED TO THAT PORTION OF THE CONTRACT WHICH HAS BEEN TERMINATED.

10.2 TERMINATION FOR CONVENIENCE OF THE OWNER

10.2.1 THE OWNER MAY, AT ANY TIME UPON TEN (10) DAYS' WRITTEN NOTICE TO THE CM AND TO THE CM'S SURETY, WHICH NOTICE SHALL SPECIFY THAT PORTION OF THE WORK TO BE TERMINATED AND THE DATE SAID TERMINATION IS TO TAKE EFFECT, TERMINATE (WITHOUT PREJUDICE TO ANY RIGHT OR REMEDY OF THE OWNER) THE WHOLE OR ANY PORTION OF THE WORK FOR THE CONVENIENCE OF THE OWNER. THE CM'S SOLE REMEDY IN THE EVENT OF SUCH TERMINATION, WILL BE THE ALLOWABLE TERMINATION COSTS PERMITTED BY PARAGRAPH 10.4. CM SHALL INCLUDE TERMINATION CLAUSES IDENTICAL TO ARTICLE 10 IN EACH OF HIS SUBCONTRACTS.

10.3 DEFAULT TERMINATION

10.3.1 TEN (10) DAYS' AFTER WRITTEN NOTICE IS MAILED TO THE CM AND TO THE CM'S SURETY, THE OWNER MAY TERMINATE (WITHOUT PREJUDICE TO ANY RIGHT OR REMEDY OF THE OWNER OR ANY SUBSEQUENT BUYER OF ANY PORTION OF THE WORK) THE EMPLOYMENT OF THE CM AND HIS RIGHT TO PROCEED EITHER AS TO THE WHOLE OR ANY PORTION OF THE WORK REQUIRED BY THE CONTRACT DOCUMENTS AND MAY TAKE POSSESSION OF THE WORK AND COMPLETE THE WORK BY CONTRACT OR OTHERWISE IN ANY ONE OF THE FOLLOWING CIRCUMSTANCES:

.1 IF THE CM OR ITS SURETY REFUSES OR FAILS TO PROSECUTE THE WORK OR ANY SEPARABLE PART THEREOF WITH SUCH DILIGENCE AS WILL ENSURE THE SUBSTANTIAL OR FINAL COMPLETION OF THE WORK WITHIN THE CONTRACT TIME OR FAILS TO COMPLETE THE WORK OR REMEDY A DEFAULT WITHIN SAID PERIOD;

.2 IF THE CM IS IN MATERIAL DEFAULT IN CARRYING OUT ANY PROVISIONS OF THE CONTRACT FOR A CAUSE WITHIN HIS CONTROL;

.3 IF THE CM FAILS TO SUPPLY A SUFFICIENT NUMBER OF PROPERLY SKILLED WORKMEN OR PROPER EQUIPMENT OR MATERIALS;

.4 IF THE CM FAILS TO MAKE PAYMENT TO THE CONTRACTORS OR FOR MATERIALS OR LABOR WHEN DUE, UNLESS HE OTHERWISE PROVIDES THE OWNER REASONABLE EVIDENCE THAT PAYMENT IS NOT LEGALLY OR CONTRACTUALLY DUE;

.5 IF THE CM DISREGARDS LAWS, PERMITS, ORDINANCES, RULES, REGULATIONS OR ORDERS OF ANY PUBLIC AUTHORITY HAVING JURISDICTION, OR FAILS TO FOLLOW THE REASONABLE INSTRUCTIONS OF THE OWNER;

.6 IF THE CM SUBSTANTIALLY VIOLATES ANY PROVISIONS OF THE CONTRACT DOCUMENTS; OR

.7 IF THE CM REFUSES OR FAILS TO PROPERLY SCHEDULE, PLAN, COORDINATE AND EXECUTE THE WORK, AS SPECIFIED HEREIN, SO AS TO PERFORM THE WORK WITHIN THE SPECIFIED MILESTONE AND COMPLETION DATES, OR TO PROVIDE SCHEDULING OR RELATED INFORMATION, REVISIONS AND UPDATES AS REQUIRED BY THE CONTRACT DOCUMENTS.

10.3.2 THE RIGHT OF THE CM TO PROCEED SHALL NOT BE SO TERMINATED UNDER THIS PARAGRAPH 10.3 IF THE DELAYS IN THE COMPLETION OF THE WORK ARE DUE TO CAUSES BEYOND THE CONTROL AND WITHOUT THE FAULT OR NEGLIGENCE OF THE CM OR THE CONTRACTORS.

10.3.3 IF, AFTER THE CM HAS BEEN TERMINATED FOR DEFAULT PURSUANT TO PARAGRAPH 10.3, IT IS DETERMINED THAT NONE OF THE CIRCUMSTANCES SET FORTH IN PARAGRAPH 10.3.1 EXIST, THEN SUCH TERMINATION SHALL BE CONSIDERED A TERMINATION FOR CONVENIENCE PURSUANT TO PARAGRAPH 10.2. IN SUCH CASE, THE CM'S SOLE REMEDY WILL BE THE COSTS PERMITTED BY PARAGRAPH 10.4.

10.3.4 IF THE OWNER SO TERMINATES THE EMPLOYMENT OF THE CM, THE CM SHALL NOT BE ENTITLED TO RECEIVE ANY FURTHER PAYMENT UNTIL THE WORK IS FINISHED. IF THE UNPAID BALANCE OF THE COMPENSATION THAT WOULD HAVE BEEN PAID TO THE CM FOR THE ACTUAL WORK COMPLETED, EXCLUDING THE CM'S UNUSED CONTINGENCY, SHALL EXCEED THE EXPENSE OF SO COMPLETING THE WORK (INCLUDING COMPENSATION FOR ADDITIONAL CONSTRUCTION MANAGEMENT, MANAGERIAL, ADMINISTRATIVE, CONSULTANT, LEGAL, DESIGN AND INSPECTION SERVICES AND ANY DAMAGES FOR DELAY) SUCH EXCESS SHALL BE PAID TO THE CM.

10.3.5 IF SUCH EXPENSES SHALL EXCEED THE UNPAID BALANCE, THE CM AND HIS SURETIES SHALL BE LIABLE TO THE OWNER FOR SUCH EXCESS. IF THE RIGHT OF THE CM TO PROCEED WITH THE WORK IS PARTIALLY OR FULLY TERMINATED, THE OWNER MAY TAKE POSSESSION OF AND UTILIZE IN COMPLETING THE WORK SUCH MATERIALS, APPLIANCES, SUPPLIES,

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PLANT AND EQUIPMENT AS MAY BE ON THE SITE OF THE TERMINATED PORTION OF THE WORK AND NECESSARY FOR THE COMPLETION OF THE WORK. IF THE OWNER DOES NOT FULLY TERMINATE THE RIGHT OF THE CM TO PROCEED, THE CM SHALL CONTINUE TO PERFORM THE PART OF THE WORK THAT IS NOT TERMINATED.

10.3.6 IF THE OWNER TERMINATES THE WHOLE OR ANY PART OF THE WORK PURSUANT TO PARAGRAPH 10.3, THE OWNER MAY PROCURE, UPON SUCH TERMS AND IN SUCH MANNER AS THE OWNER MAY DEEM APPROPRIATE, SUPPLIES OR SERVICES SIMILAR TO THOSE SO TERMINATED, AND THE CM SHALL BE LIABLE TO THE OWNER FOR ANY EXCESS COSTS FOR SUCH SIMILAR SUPPLIES OR SERVICES. THE CM SHALL CONTINUE THE PERFORMANCE OF THE CONTRACT TO THE EXTENT NOT TERMINATED HEREUNDER.

10.4 ALLOWABLE TERMINATION COSTS

10.4.1 IF THE OWNER TERMINATES THE WHOLE OR ANY PORTION OF THE WORK PURSUANT TO PARAGRAPH 10.2, THEN THE OWNER SHALL ONLY BE LIABLE TO THE CM FOR THOSE COSTS REIMBURSABLE TO THE CM IN ACCORDANCE WITH PARAGRAPH 10.4.2, PLUS A MARKUP OF TEN PERCENT FOR PROFIT AND OVERHEAD ON THE ACTUAL FULLY ACCOUNTED COSTS PAID BY THE OWNER UNDER 10.4.2; PROVIDED HOWEVER, THAT IF THERE IS EVIDENCE THAT THE CM WOULD HAVE SUSTAINED A LOSS ON THE ENTIRE CONTRACT HAD IT BEEN COMPLETED, NO PROFIT SHALL BE INCLUDED OR ALLOWED HEREUNDER FOR THE WORK PERFORMED AND AN APPROPRIATE ADJUSTMENT SHALL BE MADE REDUCING THE AMOUNT OF THE SETTLEMENT TO REFLECT THE INDICATED RATE OF LOSS. UNDER NO CIRCUMSTANCES SHALL THE CM BE ENTITLED TO ANY LOSS PROFIT OR FEE ON THE WORK TERMINATED PURSUANT TO SECTION 10.2.

10.4.1.1 AFTER RECEIPT OF A NOTICE OF TERMINATION, THE CM SHALL SUBMIT TO THE OWNER HIS TERMINATION CLAIM, IN THE FORM AND WITH CERTIFICATION PRESCRIBED BY THE OWNER. SUCH CLAIM SHALL BE SUBMITTED PROMPTLY, BUT IN NO EVENT LATER THAN THIRTY (30) DAYS FROM THE EFFECTIVE DATE OF TERMINATION, UNLESS ONE OR MORE EXTENSIONS IN WRITING ARE GRANTED BY THE OWNER UPON REQUEST OF THE CM MADE IN WRITING WITHIN SUCH THIRTY (30) DAY PERIOD OR AUTHORIZED EXTENSION THEREOF. HOWEVER, IF THE OWNER DETERMINES THAT THE FACTS JUSTIFY SUCH ACTION, HE MAY RECEIVE AND EVALUATE ANY SUCH TERMINATION CLAIM AT ANY TIME AFTER SUCH THIRTY (30) DAY PERIOD OR ANY EXTENSION THEREOF. UPON FAILURE OF THE CM TO SUBMIT HIS TERMINATION CLAIM WITHIN THE TIME ALLOWED, THE OWNER MAY DETERMINE ON THE BASIS OF INFORMATION AVAILABLE TO HIM, THE AMOUNT, IF ANY, DUE TO THE CM BY REASON OF THE TERMINATION.

10.4.2 IF THE OWNER TERMINATES THE WHOLE OR ANY PORTION OF THE WORK PURSUANT TO SECTION 10.2, THE OWNER SHALL PAY THE CM AN AMOUNT FOR SUPPLIES, SERVICES, OR PROPERTY ACCEPTED BY THE OWNER, AND WHICH IS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, IN AN AMOUNT AS IF THE AGREEMENT HAD NOT BEEN TERMINATED. IN ADDITION, IN SUCH EVENT, THE OWNER SHALL PAY TO CM AN AMOUNT REPRESENTING CM'S ACTUAL COST, EXCLUDING ANY OVERHEAD AND PROFIT FOR THE ITEMS AND THINGS SPECIFIED IN SUBPARAGRAPH 10.5.1.6 AND NOT HERETOFORE PAID FOR, APPROPRIATELY ADJUSTED FOR ANY SAVING OF FREIGHT OR OTHER CHARGES. UNDER NO CIRCUMSTANCES, SHALL THE CM BE ENTITLED TO ANY LOSS PROFIT OR FEE ON THE WORK TERMINATED PURSUANT TO SECTION 10.2.

10.4.2.1 THE CM AGREES THAT NEITHER THE OWNER NOR THE DESIGNER WILL BE LIABLE FOR PAYMENTS TO CONTRACTORS OR SUBCONTRACTORS PURSUANT TO PARAGRAPH 10.4.2 UNLESS EACH CONTRACT OR SUBCONTRACT CONTAINS TERMINATION PROVISIONS IDENTICAL TO THOSE SET FORTH IN THIS ARTICLE 10. THE OWNER AND THE DESIGN CONSULTANT WILL NOT BE LIABLE TO THE CM OR ANY OF THE CONTRACTORS OR SUBCONTRACTORS FOR ANY COSTS ASSOCIATED WITH TERMINATION IF THE CONTRACT OR SUBCONTRACT OF THE PARTY INVOLVED DOES NOT INCLUDE THE REQUIRED TERMINATION LANGUAGE.

10.4.3 IN ARRIVING AT ANY AMOUNT DUE THE CM PURSUANT TO PARAGRAPH 10.4, THERE SHALL BE DEDUCTED THE FOLLOWING:

.1 ALL UNLIQUIDATED ADVANCE OR OTHER PAYMENTS ON ACCOUNT THERETOFORE MADE TO THE CM APPLICABLE TO THE TERMINATED PORTION OF THE CONTRACT;

.2 ANY AMOUNT WHICH THE OWNER REASONABLY BELIEVES THE CM OR ANY OF THE CONTRACTORS OWES TO THE OWNER;

.3 SUCH AMOUNT AS THE OWNER DETERMINES TO BE NECESSARY TO PROTECT THE OWNER AGAINST LOSS BECAUSE OF OUTSTANDING OR POTENTIAL LIENS OR CLAIMS; AND

.4 THE AGREED PRICE FOR, OR THE PROCEEDS OF SALE OF, ANY MATERIALS, SUPPLIES OR OTHER THINGS ACQUIRED BY THE CM OR SOLD, PURSUANT TO THE PROVISIONS OF PARAGRAPH 10.5.1.7, AND NOT OTHERWISE RECOVERED BY OR CREDITED TO THE OWNER.

10.4.4 THE TOTAL SUM TO BE PAID TO THE CM UNDER PARAGRAPH 10.4 SHALL NOT EXCEED THE CONTRACT SUM AS REDUCED BY THE AMOUNT OF PAYMENTS OTHERWISE MADE OR TO BE MADE FOR WORK NOT TERMINATED AND AS OTHERWISE PERMITTED BY THE CONTRACT. EXCEPT FOR NORMAL SPOILAGE, AND EXCEPT TO THE EXTENT THAT THE OWNER SHALL HAVE OTHERWISE EXPRESSLY ASSUMED THE RISK OF LOSS, THERE SHALL BE EXCLUDED FROM THE AMOUNTS PAYABLE TO THE CM, AS PROVIDED IN PARAGRAPH 10.4.2, THE REPLACEMENT COST OF PROPERTY WHICH IS DESTROYED, LOST, STOLEN OR DAMAGED SO AS TO BECOME UNDELIVERABLE TO THE OWNER, OR TO A BUYER PURSUANT TO PARAGRAPH 10.5.1.7.

10.5 GENERAL TERMINATION PROVISIONS

10.5.1 AFTER RECEIPT OF A NOTICE OF TERMINATION FROM THE OWNER, PURSUANT TO PARAGRAPH 10.2 OR

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10.3, AND EXCEPT AS OTHERWISE DIRECTED BY THE OWNER, THE CM SHALL:

.1 STOP WORK UNDER THE CONTRACT ON THE DATE AND TO THE EXTENT SPECIFIED IN THE NOTICE OF TERMINATION;

.2 PLACE NO FURTHER ORDERS OR SUBCONTRACTS FOR MATERIALS, SERVICES OR FACILITIES, EXCEPT AS MAY BE NECESSARY FOR COMPLETION OF SUCH PORTION OF THE WORK UNDER THE CONTRACT AS IS NOT TERMINATED;

.3 TERMINATE ALL ORDERS AND SUBCONTRACTS TO THE EXTENT THAT THEY RELATE TO THE PERFORMANCE OF WORK TERMINATED BY THE NOTICE OF TERMINATION;

.4 AT THE OPTION OF THE OWNER, ASSIGN TO THE OWNER IN THE MANNER, AT THE TIMES AND TO THE EXTENT DIRECTED BY THE OWNER, ALL OF THE RIGHTS IN THE CONTRACTS SO TERMINATED, IN WHICH CASE THE OWNER SHALL HAVE THE RIGHT, AT HIS DISCRETION, TO SETTLE OR PAY ANY OR ALL CLAIMS ARISING OUT OF THE TERMINATION OF SUCH ORDERS AND SUBCONTRACTS;

.5 SETTLE ALL OUTSTANDING LIABILITIES AND ALL CLAIMS ARISING OUT OF SUCH TERMINATION OR ORDERS AND SUBCONTRACTS, WITH THE APPROVAL OR RATIFICATION OF THE OWNER, TO THE EXTENT HE MAY REQUIRE, WHICH APPROVAL OR RATIFICATION SHALL BE FINAL FOR ALL THE PURPOSES OF THIS ARTICLE;

.6 TRANSFER TITLE AND DELIVER TO THE ENTITY OR ENTITIES DESIGNATED BY THE OWNER, IN THE MANNER, AT THE TIMES AND TO THE EXTENT DIRECTED BY THE OWNER TO THE EXTENT SPECIFICALLY PRODUCED OR SPECIFICALLY ACQUIRED BY THE CM FOR THE PERFORMANCE OF SUCH PORTION OF THE WORK AS HAD BEEN TERMINATED, THE FOLLOWING:

(1) THE FABRICATED OR UNFABRICATED PARTS, WORK IN PROCESS, PARTIALLY COMPLETED SUPPLIES AND EQUIPMENT, MATERIALS, PARTS, TOOLS, DIES, JIGS AND OTHER FIXTURES, COMPLETED WORK, SUPPLIES AND OTHER MATERIAL PRODUCED AS PART OF, OR ACQUIRED IN CONNECTION WITH THE PERFORMANCE OF, THE WORK TERMINATED BY THE NOTICE OF TERMINATION; AND

(2) THE COMPLETED OR PARTIALLY COMPLETED PLANS, DRAWINGS, INFORMATION, RELEASES, MANUALS AND OTHER PROPERTY RELATED TO THE WORK AND WHICH, IF THE CONTRACT HAD BEEN COMPLETED, WOULD HAVE BEEN REQUIRED TO BE FURNISHED TO THE OWNER;

.7 USE COMMERCIALLY REASONABLE EFFORTS TO SELL, IN THE MANNER, AT THE TIMES, TO THE EXTENT AND AT THE PRICE OR PRICES DIRECTED OR AUTHORIZED BY THE OWNER, ANY PROPERTY OF THE TYPES REFERRED TO IN PARAGRAPH 10.5.1.6; PROVIDED, HOWEVER, THAT THE CM:

(1) SHALL NOT BE REQUIRED TO EXTEND CREDIT TO ANY BUYER, AND

(2) MAY ACQUIRE ANY SUCH PROPERTY UNDER THE CONDITIONS PRESCRIBED BY AND AT A PRICE OR PRICES APPROVED BY THE OWNER; AND PROVIDED FURTHER THAT THE PROCEEDS OF ANY SUCH TRANSFER OR DISPOSITION SHALL BE APPLIED IN REDUCTION OF ANY PAYMENTS TO BE MADE BY THE OWNER TO THE CM UNDER THE CONTRACT OR SHALL OTHERWISE BE CREDITED TO THE CONTRACT SUM COVERED BY THE CONTRACT OR PAID IN SUCH OTHER MANNER AS THE OWNER MAY DIRECT;

.8 COMPLETE PERFORMANCE OF SUCH PART OF THE WORK AS SHALL NOT HAVE BEEN TERMINATED BY THE NOTICE OF TERMINATION; AND

.9 TAKE SUCH ACTION AS MAY BE NECESSARY, OR AS THE OWNER MAY DIRECT, FOR THE PROTECTION AND PRESERVATION OF THE PROPERTY RELATED TO THE CONTRACT WHICH IS IN THE POSSESSION OF THE CM AND IN WHICH THE OWNER HAS OR MAY ACQUIRE AN INTEREST.

10.5.2 THE CM SHALL, FROM THE EFFECTIVE DATE OF TERMINATION UNTIL THE EXPIRATION OF THREE (3) YEARS AFTER FINAL SETTLEMENT UNDER THE CONTRACT, PRESERVE AND MAKE AVAILABLE TO THE OWNER, AT ALL REASONABLE TIMES AT THE OFFICE OF THE CM, BUT WITHOUT DIRECT CHARGE TO THE OWNER, ALL HIS BOOKS, RECORDS, DOCUMENTS AND OTHER EVIDENCE BEARING ON THE COSTS AND EXPENSES OF THE CM UNDER THE CONTRACT AND RELATING TO THE WORK TERMINATED HEREUNDER, OR TO THE EXTENT APPROVED BY THE OWNER, PHOTOGRAPHS, MICRO-PHOTOGRAPHS OR OTHER AUTHENTIC REPRODUCTIONS THEREOF.

10.5.3 IF THE TERMINATION, PURSUANT TO PARAGRAPH 10.2, BE PARTIAL, THE CM MAY FILE WITH THE OWNER A CLAIM FOR AN EQUITABLE ADJUSTMENT OF THE PRICE OR PRICES SPECIFIED IN THE CONTRACT RELATING TO THE CONTINUED PORTION OF THE CONTRACT (THE PORTION NOT TERMINATED BY THE NOTICE OF TERMINATION), AND SUCH EQUITABLE ADJUSTMENT AS MAY BE AGREED UPON SHALL BE MADE IN SUCH PRICE OR PRICES. ANY CLAIM BY THE CM FOR AN EQUITABLE ADJUSTMENT UNDER THIS PARAGRAPH MUST BE ASSERTED WITHIN SIX (6) MONTHS FROM THE EFFECTIVE DATE OF THE NOTICE OF TERMINATION.

10.5.4 THE CM SHALL REFUND TO THE OWNER ANY AMOUNTS PAID BY THE OWNER TO THE CM IN EXCESS OF COSTS REIMBURSABLE UNDER PARAGRAPH 10.4.

10.5.5 THE CM SHALL BE ENTITLED TO ONLY THOSE DAMAGES AND THAT RELIEF FROM TERMINATION BY THE OWNER AS SPECIFICALLY PROVIDED IN ARTICLE 10.

ARTICLE 11
ADDITIONAL PROVISIONS

11.1 Confidentiality

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11.1 EXCEPT AS REQUIRED BY NORTH CAROLINA'S PUBLIC RECORDS LAW. The CM will keep all information designated and marked by the Owner as "Confidential" and concerning the Project confidential, except for communications incident to completion of the Project between the CM, Designer, and Contractor, and their independent professional engineers, architects and other consultants and subcontractors, and except for publicity approved by the Owner and communications in connection with filings with governmental bodies having jurisdiction over the design or construction of the Project.

11.2 Limitation and Assignment

11.2.1 The Owner and the CM each bind itself, its successors, assigns, insurers, and legal representatives to the terms of this Agreement.

11.2.2 Neither the Owner nor the CM shall assign or transfer its rights or interest in this Agreement without the written consent of the other, except that the CM may assign accounts receivable to a commercial bank for securing loans without approval of the Owner, AND THE OWNER MAY ASSIGN THE AREEMENT TO NEW HANOVER COUNTY FOR ANY REASON WITHOUT THE CONSENT OF THE CM. However, nothing contained in this paragraph can prevent the CM from employing contractors or such consultants, associates or subcontractors as the CM may deem appropriate to assist in performance of the services and of the Work hereunder.

11.3 Governing Law

11.3.1 ~~Unless otherwise provided~~, This Agreement shall be governed by the laws of the State OF NORTH CAROLINA ~~where the Project is located~~.

11.3.2 CM SHALL COMPLY WITH ALL APPLICABLE LAWS AND REGULATIONS IN PROVIDING SERVICES UNDER THIS AGREEMENT. CM SHALL NOT EMPLOY ANY INDIVIDUALS TO PROVIDE SERVICES TO THE OWNER WHO ARE NOT AUTHORIZED BY FEDERAL LAW TO WORK IN THE UNITED STATES. CM REPRESENTS THAT IT IS AWARE OF AND IN COMPLIANCE WITH THE IMMIGRATION REFORM AND CONTROL ACT AND NORTH CAROLINA LAW (ARTICLE 2 OF CHAPTER 64 OF THE NORTH CAROLINA GENERAL STATUTES) REQUIRING USE OF THE E-VERIFY SYSTEM. CM FURTHER WARRANTS THAT IT WILL USE THE E-VERIFY SYSTEM TO VERIFY EMPLOYMENT ELIGIBILITY OF ALL ITS EMPLOYEES THROUGHOUT THE TERM OF THIS AGREEMENT, AND THAT IT WILL REMAIN IN COMPLIANCE WITH ALL I-9 REQUIREMENTS THROUGHOUT THE TERM OF THIS AGREEMENT. CM SHALL ALSO ENSURE THAT ANY SUBCONTRACTORS USE THE E-VERIFY SYSTEM AT ALL TIMES WHILE PROVIDING SUBCONTRACTED SERVICES IN CONNECTION WITH THIS AGREEMENT.

11.3.3 LUNSFORD ACT/CRIMINAL BACKGROUND CHECKS. THE CM SHALL CONDUCT OR ARRANGE TO HAVE CONDUCTED AT ITS OWN EXPENSE SEXUAL OFFENDER REGISTRY CHECKS ON EACH OF ITS EMPLOYEES, AGENTS, OWNERSHIP PERSONNEL, OR CONTRACTORS ("CONTRACTUAL PERSONNEL") WHO WILL ENGAGE IN ANY SERVICE ON OR DELIVERY OF GOODS TO SCHOOL SYSTEM PROPERTY OR AT A SCHOOL-SYSTEM SPONSORED EVENT. EXCEPT CHECKS SHALL NOT BE REQUIRED FOR INDIVIDUALS WHO ARE SOLELY DELIVERING OR PICKING UP EQUIPMENT, MATERIALS, OR SUPPLIES AT: (1) THE ADMINISTRATIVE OFFICE OR LOADING DOCK OF A SCHOOL; (2) NON-SCHOOL SITES; (3) SCHOOLS CLOSED FOR RENOVATION; OR (4) SCHOOL CONSTRUCTION SITES. THE CHECKS SHALL INCLUDE AT A MINIMUM CHECKS OF THE STATE SEX OFFENDER AND PUBLIC PROTECTION REGISTRATION PROGRAM, THE STATE SEXUALLY VIOLENT PREDATOR REGISTRATION PROGRAM, AND THE NATIONAL SEX OFFENDER REGISTRY ("THE REGISTRIES"). FOR THE CM'S CONVENIENCE ONLY, ALL OF THE REQUIRED REGISTRY CHECKS MAY BE COMPLETED AT NO COST BY ACCESSING THE UNITED STATES DEPARTMENT OF JUSTICE SEX OFFENDER PUBLIC WEBSITE AT HTTP://WWW.NSOPW.GOV/. THE CM SHALL PROVIDE CERTIFICATION ON THE SEXUAL OFFENDER REGISTRY CHECK CERTIFICATION FORM THAT THE REGISTRY CHECKS WERE CONDUCTED ON EACH OF ITS CONTRACTUAL PERSONNEL PROVIDING SERVICES OR DELIVERING GOODS UNDER THIS AGREEMENT PRIOR TO THE COMMENCEMENT OF SUCH SERVICES OR THE DELIVERY OF SUCH GOODS. THE CM SHALL CONDUCT A CURRENT INITIAL CHECK OF THE REGISTRIES (A CHECK DONE MORE THAN 30 DAYS PRIOR TO THE DATE OF THIS AGREEMENT SHALL NOT SATISFY THIS CONTRACTUAL OBLIGATION). IN ADDITION, PROVIDER AGREES TO CONDUCT THE REGISTRY CHECKS AND PROVIDE A SUPPLEMENTAL CERTIFICATION FORM BEFORE ANY ADDITIONAL CONTRACTUAL PERSONNEL ARE USED TO DELIVER GOODS OR PROVIDE SERVICES PURSUANT TO THIS AGREEMENT. PROVIDER FURTHER AGREES TO CONDUCT ANNUAL REGISTRY CHECKS OF ALL CONTRACTUAL PERSONNEL AND PROVIDE ANNUAL CERTIFICATIONS AT EACH ANNIVERSARY DATE OF THIS AGREEMENT. PROVIDER SHALL NOT ASSIGN ANY INDIVIDUAL TO DELIVER GOODS OR PROVIDE SERVICES PURSUANT TO THIS AGREEMENT IF SAID INDIVIDUAL APPEARS ON ANY OF THE LISTED REGISTRIES. PROVIDER AGREES THAT IT WILL MAINTAIN ALL RECORDS AND DOCUMENTS NECESSARY TO DEMONSTRATE THAT IT HAS CONDUCTED A THOROUGH CHECK OF THE REGISTRIES AS TO EACH CONTRACTUAL PERSONNEL, AND AGREES TO PROVIDE SUCH RECORDS AND DOCUMENTS TO THE SCHOOL SYSTEM UPON REQUEST. PROVIDER SPECIFICALLY ACKNOWLEDGES THAT THE SCHOOL SYSTEM RETAINS THE RIGHT TO AUDIT THESE RECORDS TO ENSURE COMPLIANCE WITH THIS SECTION AT ANY TIME IN THE SCHOOL SYSTEM'S SOLE DISCRETION. FAILURE TO COMPLY WITH THE TERMS OF THIS PROVISION SHALL BE DEEMED A MATERIAL BREACH OF THE AGREEMENT. IN ADDITION, THE SCHOOL SYSTEM MAY CONDUCT ADDITIONAL CRIMINAL RECORDS CHECKS AT THE SCHOOL SYSTEM'S EXPENSE. IF THE SCHOOL SYSTEM EXERCISES THIS RIGHT TO CONDUCT ADDITIONAL CRIMINAL RECORDS CHECKS, PROVIDER AGREES TO PROVIDE WITHIN SEVEN (7) DAYS OF REQUEST THE FULL NAME, DATE OF BIRTH, STATE OF RESIDENCY FOR THE PAST TEN YEARS, AND ANY ADDITIONAL INFORMATION REQUESTED BY THE SCHOOL SYSTEM FOR ALL CONTRACTUAL PERSONNEL WHO MAY DELIVER GOODS OR PERFORM SERVICES UNDER THIS AGREEMENT. PROVIDER FURTHER AGREES THAT IT HAS AN ONGOING OBLIGATION TO PROVIDE THE SCHOOL SYSTEM WITH THE NAME OF ANY NEW CONTRACTUAL PERSONNEL WHO MAY DELIVER GOODS

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OR PROVIDE SERVICES UNDER THE AGREEMENT. OWNER RESERVES THE RIGHT TO PROHIBIT ANY CONTRACTUAL PERSONNEL OF PROVIDER FROM DELIVERING GOODS OR PROVIDING SERVICES UNDER THIS AGREEMENT IF OWNER DETERMINES, IN ITS SOLE DISCRETION THAT SUCH CONTRACTUAL PERSONNEL MAY POSE A THREAT TO THE SAFETY OR WELL-BEING OF STUDENTS, SCHOOL PERSONNEL OR OTHERS.

11.3.4 THE CM CERTIFIES THAT AS OF THE DATE OF THIS AGREEMENT, THE CM IS NOT LISTED ON THE FINAL DIVESTMENT LIST CREATED BY THE NORTH CAROLINA STATE TREASURER PURSUANT TO N.C. GEN. STAT. § 147-86.58. THE CM UNDERSTANDS THAT IT IS NOT ENTITLED TO ANY PAYMENTS WHATSOEVER UNDER THIS AGREEMENT IF THIS CERTIFICATION IS FALSE. THE INDIVIDUAL SIGNING THIS AGREEMENT CERTIFIES THAT HE OR SHE IS AUTHORIZED BY THE CM TO MAKE THE FOREGOING STATEMENT.

11.3.5 ANTI-NEPOTISM. THE CM WARRANTS THAT, TO THE BEST OF ITS KNOWLEDGE AND IN THE EXERCISE OF DUE DILIGENCE, NONE OF ITS CORPORATE OFFICERS, DIRECTORS, OR TRUSTEES AND NONE OF ITS EMPLOYEES WHO WILL DIRECTLY PROVIDE SERVICES UNDER THIS AGREEMENT ARE IMMEDIATE FAMILY MEMBERS OF ANY MEMBER OF THE OWNER'S BOARD OF EDUCATION OR OF ANY PRINCIPAL OR CENTRAL OFFICE STAFF ADMINISTRATOR EMPLOYED BY THE OWNER. FOR PURPOSES OF THIS PROVISION, "IMMEDIATE FAMILY" MEANS SPOUSE, PARENT, CHILD, BROTHER, SISTER, GRANDPARENT, OR GRANDCHILD, AND INCLUDES STEP, HALF, AND IN-LAW RELATIONSHIPS. SHOULD THE CM BECOME AWARE OF ANY FAMILY RELATIONSHIP COVERED BY THIS PROVISION OR SHOULD SUCH A FAMILY RELATIONSHIP ARISE AT ANY TIME DURING THE TERM OF THIS AGREEMENT, THE CM SHALL IMMEDIATELY DISCLOSE THE FAMILY RELATIONSHIP IN WRITING TO THE SUPERINTENDENT. UNLESS FORMALLY WAIVED BY THE OWNER, THE EXISTENCE OF A FAMILY RELATIONSHIP COVERED BY THIS AGREEMENT IS GROUNDS FOR IMMEDIATE TERMINATION BY OWNER WITHOUT FURTHER FINANCIAL LIABILITY TO THE CM.

11.3.6 THE CM SHALL COMPLY WITH THE ABOVE LISTED AND ALL APPLICABLE LAWS AND REGULATIONS IN PROVIDING SERVICES UNDER THIS AGREEMENT.

11.4 Extent of Agreement

11.4.1 This Agreement represents the entire and integrated agreement between the Owner and the CM and SUPERSEDES all prior negotiations, representations or agreements, either written or oral. This Agreement may be modified or amended only by written instrument signed by both the Owner and the CM. Nothing contained in this Agreement is intended to benefit any third party. The Contractors and Designer are not intended third party beneficiaries of this Agreement. THIS AGREEMENT SHALL NOT BE CONSTRUED MORE STRICTLY AGAINST ONE PARTY THAN THE OTHER MERELY BY VIRTUE OF THE FACT THAT IT HAS BEEN PREPARED INITIALLY BY THE OWNER, IT BEING RECOGNIZED THAT BOTH PARTIES AND THEIR RESPECTIVE COUNSEL HAVE HAD A FULL AND FAIR OPPORTUNITY TO NEGOTIATE AND REVIEW THE TERMS AND PROVISIONS OF THIS AGREEMENT AND TO CONTRIBUTE TO ITS SUBSTANCE AND FORM.

11.5 Severability

11.5.1 If any provision of this Agreement is held as a matter of law to be unenforceable, the remainder of this Agreement shall be enforceable without such provision.

11.6 Meaning of Terms

11.6.1 References made in the singular shall include the plural and the masculine shall include the feminine or neuter.

~~11.6.2 The meaning of terms used herein shall be consistent with the definitions expressed in the CMAA Standard Form Agreements, Contracts and General Conditions.~~

11.7 Notices

11.7.1 Whenever any provision of the Contract Documents requires the giving of written notice, it shall be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended or if delivered or sent by registered or certified mail, postage prepaid, OR BY FACSIMILE, addressed as follows:

To the Owner:
New Hanover County Board of Education
6410 Carolina Beach Road
Wilmington NC 28412

To the Designer:
Sawyer Sherwood & Associate, P.C.
124 Market Street
Wilmington NC 28401

To the CM:
Barnhill Contracting Company
P.O. Box 31765
Raleigh, NC 27622

11.8 COMPLIANCE WITH BOARD POLICIES AND PROCEDURES

11.8.1 THE CM AGREES TO COMPLY WITH THESE AND ALL OTHER BOARD POLICIES. THE CM ACKNOWLEDGES THAT THE BOARD POLICIES ARE AVAILABLE FOR REVIEW AT WWW.NHCS.NET/POLICIES/POLICYMANUAL.HTM. IN ADDITION TO COMPLYING WITH BOARD POLICIES, THE CM AGREES TO COMPLY WITH THE FOLLOWING:

11.8.2 THE CM, THE CONTRACTORS AND THEIR EMPLOYEES SHALL NOT POSSESS OR CARRY, WHETHER OPENLY OR CONCEALED, ANY GUN, RIFLE, PISTOL, OR EXPLOSIVE ON ANY PROPERTY OWNED BY THE OWNER. THIS INCLUDES FIREARMS LOCKED IN CONTAINERS, VEHICLES OR FIREARM RACKS WITHIN VEHICLES. THE CM, THE CONTRACTORS AND THEIR EMPLOYEES SHALL NOT CAUSE, ENCOURAGE OR AID A MINOR, WHO IS LESS THAN 18 YEARS OLD TO POSSESS

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OR CARRY, WHETHER OPENLY OR CONCEALED, ANY WEAPONS ON ANY PROPERTY OWNED BY THE OWNER.

11.8.3 THE CM, THE CONTRACTORS AND THEIR EMPLOYEES, ARE PROHIBITED FROM PROFANE, LEWD, OBSCENE OR OFFENSIVE CONDUCT OR LANGUAGE, INCLUDING ENGAGING IN SEXUAL HARASSMENT.

11.8.4 THE CM AND THE CONTRACTORS SHALL NOT MANUFACTURE, TRANSMIT, CONSPIRE TO TRANSMIT, POSSESS, USE OR BE UNDER THE INFLUENCE OF ANY ALCOHOLIC OR OTHER INTOXICATING BEVERAGE, NARCOTIC DRUG, HALLUCINOGENIC DRUG, AMPHETAMINE, BARBITURATE, MARIJUANA OR ANABOLIC STEROIDS, OR POSSESS, USE, TRANSMIT OR CONSPIRE TO TRANSMIT DRUG PARAPHERNALIA ON ANY PROPERTY OWNED BY THE OWNER.

11.8.5 THE CM AND THE CONTRACTORS MAY NOT AT ANY TIME USE OR DISPLAY TOBACCO OR NICOTINE-CONTAINING PRODUCTS, INCLUDING BUT NOT LIMITED TO ELECTRONIC CIGARETTES (E-CIGARETTES), ON SCHOOL PREMISES, BOTH INDOOR AND OUTDOOR. THE PROHIBITION OF THE DISPLAY OF TOBACCO OR NICOTINE PRODUCTS SHALL NOT EXTEND TO A DISPLAY THAT HAS A LEGITIMATE INSTRUCTIONAL OR PEDAGOGICAL PURPOSE. FOR PURPOSES OF THIS AGREEMENT, "TOBACCO PRODUCT" IS DEFINED TO INCLUDE CIGARETTES, CIGARS, BLUNTS, BIDIS, PIPES, CHEWING TOBACCO, SNUFF, AND ANY OTHER ITEMS CONTAINING OR REASONABLY RESEMBLING TOBACCO, TOBACCO PRODUCTS, OR ANY FACSIMILE THEREOF. "TOBACCO USE" INCLUDES SMOKING, CHEWING, DIPPING, OR ANY OTHER USE OF TOBACCO PRODUCTS.

11.8.6 THE CM, THE CONTRACTORS AND THEIR EMPLOYEES SHALL NOT SOLICIT FROM OR SELL TO STUDENTS OR STAFF WITHIN THE OWNER'S FACILITIES OR CAMPUSES, AND SHALL NOT GIVE GIFTS OF ANY VALUE TO SCHOOL SYSTEM EMPLOYEES.

11.8.7 OPERATORS OF ALL COMMERCIAL VEHICLES ON ANY PROPERTY OWNED BY THE OWNER SHALL BE SUBJECT TO POST-ACCIDENT, RANDOM, REASONABLE SUSPICION AND FOLLOW-UP TESTING FOR DRUGS AND ALCOHOL.

11.8.8 THE CM, THE CONTRACTORS AND THEIR EMPLOYEES ARE PROHIBITED FROM USING ACCESS TO THE SITE PURSUANT TO THIS AGREEMENT AS A MEANS TO DATE, COURT, OR ENTER INTO A ROMANTIC OR SEXUAL RELATIONSHIP WITH ANY STUDENT ENROLLED IN THE **NEW HANOVER COUNTY SCHOOLS**. THE CM AGREES TO INDEMNIFY THE OWNER FOR CLAIMS AGAINST THE OWNER RESULTING FROM RELATIONSHIPS WHICH HAVE OCCURRED OR MAY OCCUR BETWEEN A STUDENT AND AN EMPLOYEE OF THE CM OR THE CONTRACTORS.

THE CM, THE CONTRACTORS AND THEIR EMPLOYEES SHALL NOT INTERACT WITH ANY STUDENTS. NOTHING IN THIS PARAGRAPH SHALL BE CONSTRUED TO PREVENT THE CM, THE CONTRACTORS AND THEIR EMPLOYEES FROM TAKING NECESSARY MEASURES TO PROTECT STUDENTS, STAFF OR OTHER EMPLOYEES.

11.8.9 THE CM SHALL AT ALL TIMES ENFORCE STRICT DISCIPLINE AND GOOD ORDER AMONG ITS EMPLOYEES AND SHALL NOT EMPLOY ANY UNFIT PERSON OR ANYONE NOT SKILLED IN THE TASK ASSIGNED TO IT. THE OWNER MAY REQUIRE THE CM TO REMOVE ANY EMPLOYEE, CONTRACTOR OR SUBCONTRACTOR THE OWNER DEEMS INCOMPETENT, CARELESS OR OTHERWISE OBJECTIONABLE.

11.8.10 ALL AGENTS AND WORKERS OF THE CM AND THE CONTRACTORS SHALL WEAR IDENTIFICATION BADGES PROVIDED BY THE CM AT ALL TIMES THEY ARE ON THE OWNER'S PROPERTY. THE IDENTIFICATION BADGES SHALL AT A MINIMUM DISPLAY THE COMPANY NAME, TELEPHONE NUMBER, EMPLOYEE NAME AND A PICTURE OF THE EMPLOYEE. THE CM AND THE CONTRACTORS SHALL COMPLY WITH THE OWNER'S SITE OR SCHOOL BUILDING ACCESS PROCEDURES WHEN WORKING ON ANY EXISTING SCHOOL CAMPUS.

11.8.11 IN ACCORDANCE WITH BOARD POLICY AND GENERAL STATUTES § 14-208.18 AND § 115C-332(A)(2)(B), THE CM AND THE CONTRACTORS SHALL CONDUCT ANNUAL CHECKS OF CONTRACT PERSONNEL ON THE STATE SEX OFFENDER AND PUBLIC PROTECTION REGISTRY, THE STATE SEXUALLY VIOLENT PREDATOR REGISTRY, AND THE NATIONAL SEX OFFENDER REGISTRY. NO INDIVIDUAL WHO IS ON THE STATE SEX OFFENDER AND PUBLIC PROTECTION REGISTRY, THE STATE SEXUALLY VIOLENT PREDATOR REGISTRY, OR THE NATIONAL SEX OFFENDER REGISTRY MAY BE USED TO PROVIDE SERVICES ON SCHOOL SYSTEM PROPERTY.

11.9 CONSTRUCTION PROJECT POLICIES

THE CM ACKNOWLEDGES RECEIPT OF THE OWNER'S DISPUTE RESOLUTION POLICY, MINORITY BUSINESS PARTICIPATION POLICY, AND PREQUALIFICATION OF BIDDERS FOR CONSTRUCTION PROJECTS, INCLUDING THEIR REGULATIONS AND PROCEDURES. THE CM AND OWNER AGREE THAT THESE POLICIES SHALL BE INCORPORATED INTO THIS AGREEMENT.

ARTICLE 12

~~SPECIAL GUARANTEED MAXIMUM PRICE PROVISIONS~~ GMP BEFORE BIDS RECEIVED

~~12.1 Guaranteed Maximum Price.~~

~~12.1.1 As of this _____ day of _____, 20____ pursuant to this Agreement and for the Project defined in Article 2, the Owner and the CM desire to set a Guaranteed Maximum Price for the Project.~~

~~12.1.2 Documentation of the Guaranteed Maximum Price shall be developed by the CM from the design drawings and specifications and such other documents as may be specified as follows:~~

~~12.1.2.1 The documentation, attached hereto as Exhibit A and made a part hereof by reference, includes budgeted amounts for each of:~~
~~priced divisions of the Work required for the Project and an amount of _____ designated as a contingency amount (the Contingency) for the use of the CM. The~~

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Guaranteed Maximum Price is for the total cost of the Project and not the cost for each or any division of the Project, unless otherwise specified.

12.1.2.2 The documentation shall be prepared by the CM and submitted to the Owner with the Guaranteed Maximum Price. The documentation may include drawings, sketches, specifications, calculations or other data used to identify the basis of the Guaranteed Maximum Price.

12.1.3 As the separate contracts, purchase orders or other fixed contract prices are obtained and are awarded for each of the separately priced divisions of the work required for the Project as shown in the Project and Construction Budget, the Guaranteed Maximum Price and the Project and Construction Budget shall be adjusted as follows:

12.1.3.1 If the cost of any division as awarded is less than the amount shown on the Project and Construction Budget, as determined in accordance with the terms of this Agreement, the amount indicated in the Project and Construction Budget for such item shall be reduced by an amount equal to the difference between such cost and the amount shown on the Project and Construction Budget for such item and the Contingency shall be increased by the same amount;

12.1.3.2 If the cost of any division is greater than the amount shown in the Project and Construction Budget to the extent that the Contingency is sufficient, the amount shown in the Project and Construction Budget for such item shall be increased by an amount equal to the difference between such cost and the amount shown in the Project and Construction Budget for such item and the Contingency shall be reduced by the same amount. The Guaranteed Maximum Price shall not be adjusted; and

12.1.3.3 If the Owner directs the CM to award a contract to a bidder other than the lowest responsible and responsive bidder for any portion of the Project, the Guaranteed Maximum Price shall be increased by the amount of the difference between the award price and the price submitted by the lowest responsible and responsive bidder. The Contingency shall not be changed;

12.1.4 The Guaranteed Maximum Price established for the Project is _____ Dollars ($_____). This Guaranteed Maximum Price is for the work described in the documentation attached as Exhibit "A".

12.1.50 In the event that the cost of the Project exceeds the Guaranteed Maximum Price and any adjustments therein as may be due pursuant to the terms hereof, the CM shall continue to perform at no additional cost to the Owner until the Project, defined by this Agreement and all Attachments hereto, IS complete. The CM shall be responsible for paying all costs, in accordance with the terms of this Agreement that may be necessary to complete the Project, even if such amounts are in aggregate in excess of the Guaranteed Maximum Price.

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Section Eight

Appendices

Trask Middle School
Asbestos Abatement Project

Abatement Specifications

At: Trask Middle School
2900 N. College Rd.
Wilmington, NC 28405

Prepared for: THE NEW HANOVER COUNTY BOARD OF EDUCATION

NHCS Project No.: 900-9009
PEI Project No.: 5104-19-0006-1A

Date: February 25, 2019

Designer: Jonathan Guetta _____
NC Designer Accreditation #40364

Supervising Air Monitor: Gary Alexander_____
SAM Accreditation #90090

Prepared by:

PRECISION ENVIRONMENTAL INC.
3802 Cherry Ave.
Wilmington, NC 28403
Tel: (910) 763-3445
Fax: (910-763-3415

1.01 Scope of work

A. This asbestos abatement project will consist of furnishing all labor, material, equipment, licenses and permits required to perform the following procedures Trask Middle School (2900 N. College Rd. Wilmington, NC 28405) (See Drawing):
   - Regulated removal of approximately 32,000 sq. ft. of asbestos containing floor tile and associated mastic
   - Non-regulated removal of approximately 620 sq. ft. of asbestos containing mastic associated with non asbestos floor tile
   - Non-regulated removal of approximately 330 sq. ft. of asbestos containing soffits and facia panels within the courtyard
   - Non-regulated removal of approximately 870 sq. ft. of cement board sheathing panels behind wood siding within the courtyard (adjacent to the media center)
   - Non-regulated removal of approximately 1,000 sq. ft. of soffits and facia panels at located at the front of the student dining area, front of the facility, and gymnasium

B. The contractor shall be aware of all conditions of the Project and is responsible for verifying quantities and locations of all Work to be performed. Failure to do so shall not relieve the Contractor of its obligation to furnish all labor, materials, and permits necessary to perform the Work with no additional cost to the Owner.

C. All Work shall be performed in strict accordance with this written specification and all governing Federal, State and Local Codes, rules and regulations. Where conflicts occur between written specifications and applicable Federal, State and Local Codes, rules and regulations, the more stringent shall apply.

D. The project shall be conducted during multiple phases over a minimum of two summers. The contractor shall coordinate with the General Contractor (GC) concerning areas of removal for each phase of the project.

1.02 Special Conditions

Removal

A. Asbestos abatement procedures involving all asbestos containing materials listed above shall take place utilizing regulated and non-regulated removal procedures (OSHA Class II).

B. Regulated removal of asbestos containing floor tile and associated mastic shall take place within no more than six (6) negative pressure enclosures (NPE).

C. If negative pressure enclosures utilize hallways, the lockers and ceilings within the hallways shall be covered in a single layer of 6-mil poly.

D. All furniture/misc. materials shall be removed by New Hanover County Schools (NHCS) prior to the start of the project.

E. The contractor shall remove existing cove base within all areas of flooring removal.

F. HVAC systems within the work area shall be shut down and isolated prior to the start of removal procedures.

G. A layer of construction poly shall be applied at the entry to all work areas. Construction poly shall be labeled with signage indicating “no entry, construction work in progress”. Once beyond

the construction poly, barricade tape and appropriate warning signs shall be placed at all entrances to the asbestos work areas prior to the start of removal procedures.

H. Each NPE utilized for asbestos floor tile and associated mastic removal shall have an attached decontamination unit (DECON) and waste load out. The DECON and Waste Load Out shall be constructed in accordance with OSHA 1926.1101.

I. The NPEs shall be constructed of critical barriers covering all penetrations leading out of the work area (i.e. doors, windows, electrical outlets), ceiling poly covering all drop ceilings or porous ceilings within the work areas and sufficient negative air machines in order to achieve four (4) air changes per hour and -0.02 inches of water pressure differential as compared to areas outside of the NPE. Critical barriers shall be constructed of at least one layer of 6-mil poly sheeting.

J. A select number of permanent fixtures and cabinets shall be demolished prior to the start of asbestos abatement. Where permanent fixtures and cabinets are to remain, floor tile removal shall terminate at the base of the fixtures and cabinets.

K. Where fixtures/cabinets are to be demolished, they shall be partially demolished by non-abatement personnel prior to the construction of the NPE with the exception of the bottom one foot of the fixture/cabinet that is in contact with the asbestos flooring. Fixtures/cabinets shall be demolished from the following areas:

- Room S5 Storage room
- Room S6 Storage room
- Room S9 Storage room
- Room S10 Storage room
- Room 01
- Room 02

L. Where permanent fixtures/cabinets are to be demolished, asbestos abatement personnel shall complete the demolition of the fixtures/cabinets <u>following</u> the construction of the NPE but prior to the start of flooring abatement procedures. The remaining portions of the fixtures/cabinets shall be disposed of as construction debris.

M. The contractor is responsible for the security of the building during the project. Negative air exhaust locations must be secured with plywood panels or approved equivalent.

N. For areas of asbestos mastic associated with non-asbestos floor tile removal within the office and small storage room adjacent to the locker rooms, barricade tape and appropriate warning signs shall be installed at the entrances to the work areas prior to the start of removal procedures. An NPE is not required for these areas.

O. Mastic removal shall take place utilizing commercially available liquid mastic remover. Mastic remover must be compatible with application of flooring to be applied following abatement procedures. *Special care must be taken when applying mastic remover adjacent to floor tile that is not scheduled for removal during each phase. The contractor shall be responsible to repair or replace tiles that have become delaminated due to overuse of liquid mastic remover.*

P. The contractor is required to install splash guards along lower walls prior to the start of mastic removal procedures.

Q. All layers of asbestos flooring and mastics shall be removed prior to the start of visual and/or clearance air monitoring. Square footage estimates account for only one layer.

R. Asbestos containing (transite) soffits and fascia panels at the front of the facility as well as within the courtyard shall be removed in an intact state as possible.

S. Prior to the start of soffit/fascia panel removal, poly ground covering shall be placed beneath the areas of removal. Poly ground covering shall extend a minimum of eight (8) feet away from walls at the exterior of the facility as obstacles permit. The removal of soffits/fascia panels at the front of the facility will require a lift to access the material.

T. Panels shall be removed intact and immediately wrapped in two layers of 6-mil poly and labeled with appropriate warning and waste generator labels prior to placement in the waste hauler.

U. Any broken panel pieces shall immediately be bagged and debris shall be HEPA vacuumed prior to continuation of removal.

V. Poly ground coverings shall be bagged and disposed of as asbestos containing waste.

W. The asbestos containing (transite) wall sheathing panels located in the courtyard adjacent to the media center are located behind T1-11 wood siding on the exterior of the building and behind wallboard on the interior within the media center.

X. The interior wallboard within the media center shall be demolished by the GC prior to the start of abatement procedures.

Y. A temporary wall shall be constructed within the media center which shall extend approximately 6 to 8 feet from the exterior wall. The abatement contractor shall apply 6-mil poly to the temporary wall facing the transite sheathing thereby isolating the interior of the media center from the transite sheathing removal. In addition, poly ground covering shall be installed within the media extending from the temporary wall to the base of the transite sheathing.

Z. The abatement contractor shall demolish the T1-11 siding and dispose of it as construction debris within a dumpster provided by the GC.

AA. Following T1-11 siding removal, the contractor shall place poly ground covering beneath the entire exterior wall. The poly ground covering shall extend a minimum of eight (8) feet away from the wall.

BB. Once the poly ground covering and interior tent containment are installed, transite sheathing panels shall be removed intact and immediately wrapped in two layers of 6-mil poly and labeled with appropriate warning and waste generator labels prior to placement in the waste hauler.

CC. Any broken sheathing pieces shall immediately be bagged and debris shall be HEPA vacuumed prior to continuation of removal.

DD. Engineering controls shall remain in place until receipt of acceptable final clearance air monitoring results or visual clearance results.

EE. If initial final clearance air sampling results reveal fiber concentration in excess of the accepted clearance criterion, the cost for additional daily monitoring as well as clearance monitoring will be absorbed by the contractor.

FF. Final clearance monitoring results shall be made available by 4:00pm the following business day following collection of the samples for each NPE.

GENERAL CONDITIONS

A. Contractor shall employ a competent and qualified superintendent who shall be ***in attendance on site*** during all construction activities for the execution of the Work. The superintendent shall be approved by the Owner, and shall continue in that capacity on this Project for the duration of the Project, unless he ceases to be on the Contractor's payroll or the Owner otherwise agrees. The superintendent shall represent the Contractor and all communication given to the superintendent shall be binding as if given to the Contractor. All qualified superintendents must be ***full time*** supervisory level employees of the contractor. This person shall represent the Contractor at weekly meetings with NHCS. The superintendent must be familiar with the project and be capable of addressing concerns associated with the project.

B. The contractor shall insure that all personnel under his supervision remain in designated areas, refrain from smoking, and refrain from using owner's equipment (i.e. ladders, mops, broom, etc.).

C. The contractor shall secure all equipment and materials prior to the end of each shift. No equipment or materials may be left unsecured outside of the facility.

D. Equipment brought on site must be clean and in good working condition. Negative air machines must be sealed at both ends during transport to from each work area.

E. Special care must be taken not to damage expansion joints within the corridors. If the expansion joints are damaged during the course of the project, they shall be repaired or replaced by the abatement contractor at New Hanover County School's discretion.

F. Special care must be taken not to damage all doors and floor hardware (from mullion mounts) from damage. If the hardware or doors are damaged, they shall be repaired or replaced by the abatement contractor at New Hanover County School's discretion.

G. The contractor shall maintain on site, all SDS sheets for all products to be used during abatement procedures.

H. The asbestos waste chain of custody shall be submitted to NHCS's environmental consultant, Precision Environmental Inc. (3802 Cherry Ave., Wilmington, NC 28403), within 35 days of delivery of the waste to the landfill. (Original(s) only, photocopies or scanned copies shall not be accepted.)

I. When completing the waste disposal chain of custody, please refer to the following: (1) Generator/Owner name and address (New Hanover County Schools, 6410 Carolina Beach Rd. Wilmington, NC 28412; (2) Generator/Owner telephone number (910-254-4087); (3) Generator/Owner representative (Kim Gordon); (4) The specific location of where the asbestos containing material was removed as well as approximate quantities.

J. All waste manifests and submittals shall be delivered to Precision Environmental Inc. at 3802 Cherry Ave., Wilmington, NC 28403.

K. Final payment shall not be processed until receipt of submittals including the final waste manifest signed by the landfill.

L. No vehicles are permitted to drive or park on concrete walkways.

M. No vehicles are permitted to park on grass located on school property.

N. Dumpsters or waste haulers may not be parked on concrete walkways.

O. Any damage to concrete and/or asphalt shall be repaired at the contractor's expense.

P. By submitting a bid for this project, the contractor understands that they are accepting the entire scope of work, schedule and potential for liquidated damages.

1.03 PERMITS AND COMPLIANCE

A. The Contractor shall assume full responsibility and liability for compliance with all applicable Federal, State and Local regulations pertaining to Work practices, protection of Workers, authorized visitors to the site, persons, and property adjacent to the Work.
B. Perform asbestos related Work in accordance with North Carolina Administrative Code Chapter 10-A Subchapter 41C – Occupational Health, 40 CFR Part 61, Subpart M – National Emission Standard for Asbestos (40 CFR 61-141-157), EPA 763.80, Part 763-Asbestos Subpart E – Asbestos Containing Materials In Schools, and all other applicable Federal, State and Local Rules and Regulations. Where more stringent requirements are specified, adhere to the more stringent requirements.
C. The Contractor must maintain current licenses pursuant to North Carolina Health Hazards Control Unit (HHCU) and Federal regulatory agencies having jurisdiction over this Project, including the removal, handling, transport, and disposal of asbestos containing materials.
D. The Contractor must have and submit proof upon request that any persons employed by the Contractor to engage in or supervise Work during this Project have a valid HHCU issued asbestos Supervisor or Worker Accreditation.
E. It is the sole responsibility of the Contractor to determine what, if any, patents are applicable to the Project. The Contractor shall pay all royalties and/or license fees. He shall defend all suits or claims for infringement of any patent rights and save the Owner, Architect, Engineer, Environmental Consultant, and Construction Manager harmless from loss, including attorney's fees, on account thereof.
F. Failure to adhere to the Project Documents shall constitute a breach of the Contract and the Owner shall have the right to and may terminate the Contract provided, however, the failure of the Owner to so terminate shall not relieve the Contractor from future compliance.
G. Failure of the Contractor to adhere to all applicable Federal, State and City rules may result in fines and penalties to the Owner, Contractor and/or the Environmental Consultant. The Contractor shall be responsible for payment of any fines issued to the Owner or the Environmental Consultant as result of the Contractor’s failure to adhere to all applicable regulations.

1.04 SUBMITTALS

A. Pre-contract Submittals: Within 5 days following award of the project, the contractor shall submit the following documentation.
    1. Preliminary Schedule: Provide an estimate of manpower to be utilized and the time required for completion of each phase of the Project. Include estimated size and number of crews and work shifts.
B. Pre-Work Submittals: Within 10 days prior to the start of the project, the Contractor shall submit 2 copies of the documents listed below:
    1. Project Notifications/Permits: As required by Federal, State, and Local regulatory agencies together with proof of transmittal (i.e. certified mail return receipt).
    2. SDS sheets for all chemicals/products to be utilized during the project.
C. Certificates documenting completion of EPA accredited training for all asbestos workers and supervisors assigned to this project.

D. Project Close-out Submittals: Submit the following at the close out of the Project:
1. **Originals** of all waste disposal manifests, shall be submitted within three (3) days after delivery, or as soon as possible thereafter. The manifests shall be signed by the landfill and shall certify the amount of ACM delivered.
2. OSHA compliance air monitoring records conducted during the Work.
3. Daily progress log.
4. A list of all Workers used in the performance of the Project, including name, HHCU Accreditation number and expiration date of accreditation.
5. For each Worker used in the performance of the Project, submit required employee statements including proof of Medical Examination, and proof of Respirator Fit Testing.
6. NHC final electrical inspection (if applicable).

1.05 PRE-CONSTRUCTION CONFERENCE

A. Prior to start of preparatory work under this Contract, the Contractor shall attend a preconstruction conference attended by Owner, GC, Facility Personnel, and Environmental Consultant.
B. Agenda for this conference shall include but not necessarily be limited to:
1. Contractor's scope of Work, Work plan, and schedule to include number of Workers and shifts.
2. Contractor's safety and health precautions including protective clothing and equipment and decontamination procedures.
3. Environmental Consultant's duties, functions, and authority.
4. Contractor's Work procedures including:
a. Methods of job site preparation and removal methods.
b. Respiratory protection.
c. Disposal procedures.
d. Cleanup procedures.
e. Fire exits and emergency procedures.
5. Contractor’s required pre-work and on-site submittals, documentation, and postings.
6. Temporary utilities.
7. Handling of furniture and other moveable objects.
8. Storage of removed asbestos containing materials.
9. Waste disposal requirements and procedures.
C. In conjunction with the conference the Contractor shall accompany the Owner and Environmental Consultant on a pre-construction walk-through documenting existing condition of finishes and furnishings, reviewing overall Work plan, location of fire exits, fire protection equipment, water supply and temporary electric tie-in.

1.06 APPLICABLE STANDARDS AND REGULATIONS

A. The Contractor shall comply with the following codes and standards, except where more stringent requirements are shown or specified:
B. Federal Regulations:
1. 29 CFR 1910.1001, "Asbestos" (OSHA)
2. 29 CFR 1910.1200, "Hazard Communication" (OSHA)
3. 29 CFR 1910.134, "Respiratory Protection" (OSHA)
4. 29 CFR 1910.145, "Specification for Accident Prevention Signs and Tags" (OSHA)
5. 29 CFR 1926, "Construction Industry" (OSHA)
6. 29 CFR 1926.1101, "Asbestos, Tremolite, Anthophylite, and Actinolite" (OSHA)

7. 29 CFR 1926.500 "Guardrails, Handrails and Covers" (OSHA)
8. 40 CFR 61, Subpart A, "General Provisions" (EPA)
9. 40 CFR 61, Subpart M, "National Emission Standard for Asbestos" (EPA)
10. 49 CFR 171-172, Transportation Standards (DOT)

C. North Carolina Regulations:
1. North Carolina Administrative Code Chapter 10-A Subchapter 41C

D. Standards and Guidance Documents:
1. American National Standard Institute (ANSI) Z88.2-80, Practices for Respiratory Protection
2. ANSI Z9.2-79, Fundamentals Governing the Design and Operation of Local Exhaust Systems
3. EPA 560/585-024, Guidance for Controlling Asbestos Containing Materials in Buildings (Purple Book)
4. EPA 530-SW-85-007, Asbestos Waste Management Guidance

1.07 NOTICES

A. The Contractor shall provide notification of intent to commence asbestos abatement activities as indicated below.
1. At least ten (10) Working days prior to beginning abatement activities, send written notification to:
Health Hazards Control Unit
NCDHHS- Division of Public Health
1912 Mail Service Center
Raleigh, NC 27699-1912

1.08 PROJECT MONITORING AND AIR SAMPLING

A. The Owner shall engage the services of an Environmental Consultant (the Consultant) who shall serve as the Owner's Representative in regard to the performance of the asbestos abatement Project and provide direction as required throughout the entire abatement period.

B. The Contractor is required to ensure cooperation of its personnel with the Consultant for the air sampling and Project monitoring functions described below. The Contractor shall comply with all direction given by the Consultant during the course of the Project.

C. The Consultant shall provide the following administrative services:
1. Review and approve or disapprove all submittals, shop drawings, and schedules.
2. Assure that all notifications to governmental agencies by the Contractor are submitted in a timely manner.
3. Review and approve the Contractor's OSHA compliance testing laboratory.

D. The Consultant shall staff the Project with a trained and certified person(s) to act on the Owner's behalf at the job site.
1. The Consultant shall be on-site at all times asbestos abatement procedures are taking place.
2. The Consultant shall have the authority to direct the actions of the Contractor verbally and in writing to ensure compliance with the Project documents and all regulations. The Consultant shall have the authority to Stop Work when gross Work practice deficiencies or unsafe practices are observed, or when ambient fiber concentrations outside the removal area exceed 0.01 f/cc or background level.
a. Such Stop Work order shall be effective immediately and remain in effect until corrective measures have been taken and the situation has been corrected.

b. Standby time required to resolve the situation shall be at the Contractor's expense.

3. The Consultant shall provide the following services:

a. Inspection of the Contractor's Work, practices, and procedures for compliance with all regulations and Project specifications.

b. Provide abatement Project air sampling as required by applicable regulations. Sampling will include during abatement and clearance sampling.

c. Verify daily that all Workers used in the performance of the Project are certified by the appropriate regulatory agency.

d. Monitor the progress of the Contractor's Work, and report any deviations from the schedule to the Owner.

e. Monitor, verify, and document all waste load-out operations.

f. Verify that the Contractor is performing personal air monitoring daily and that results are being returned and posted at the site as required, or that a valid negative exposure assessment is on site.

4. The following minimum inspections shall be conducted by the Consultant. Additional inspections shall be conducted as required by Project conditions.

a. Pre-Construction Inspection: The purpose of this inspection is to verify the existing conditions of the Work Area and to document these conditions are accurately documented by the Contractor.

b. Pre-Commencement Inspection: The purpose of this inspection is to verify the integrity of each containment system prior to disturbance of any asbestos containing material. This inspection shall take place only after the Work Area is fully prepped for removal.

c. Work Inspections: The purpose of this inspection is to monitor the Work practices and procedures employed on the Project and to monitor the continued integrity of the containment system. Inspections within the removal areas shall be conducted by the Consultant during all preparation, removal, and cleaning activities at least twice every Work shift. Additional inspections shall be conducted as warranted.

d. Visual Clearance Inspection: The purpose of this inspection is to verify the Contractor's certification that all materials have been removed from the Work Area and the absence of all visible accumulations of debris in the Work Area. This inspection shall be conducted after the final cleaning, but before final air clearance testing.

e. Post-Clearance Inspection: The purpose of this inspection is to ensure the complete removal of ACM, including debris, from the Work Area after satisfactory final clearance sampling and removal of all critical barriers and equipment from the Work Area.

f. Punch List Inspection: The purpose of this inspection is to verify the Contractor's certification that all Work has been completed as contracted and the existing condition of the area prior to its release to the Owner.

E. The Consultant shall provide abatement Project air sampling and analysis as required by applicable regulations. Sampling will include during-abatement, and clearance sampling.

1. Unless otherwise required by applicable regulations, the Consultant shall have all during air samples analyzed by Phase Contrast Microscopy (PCM), and all final clearance air samples analyzed by Transmission Electron Microscopy (TEM).

2. Air samples shall be collected as required by applicable regulations

3. If the air sampling during abatement reveals airborne fiber levels at or above 0.01 fibers/cc or the background level (whichever is greater) outside the Work Area, then the

Consultant shall issue an immediate Stop Work order. The Contractor shall then inspect the barriers for leakage and HEPA vacuum and wet clean the surface outside the Work Area. The Contractor shall bear the burden of any and all costs incurred by this delay.
4. If final clearance air sampling reveals average fiber concentrations equal or greater to 70 structures per millimeter squared, the work area shall be re-cleaned and re-sampled. In the event of a clearance failure, the cost for additional sampling and analysis shall be absorbed by the contractor.
5. Air monitoring activities shall be performed under the supervision of a licensed Supervising Air Monitor (SAM).
6. The SAM shall be accredited per the Asbestos Hazard Management Program rules.
7. The Air monitor shall be accredited as per the Asbestos Hazard Management program rules and work under the direct supervision of a SAM.

1.09 CONTRACTOR AIR SAMPLING

A. In addition to the requirements of OSHA 1926.1101, the Contractor shall be required to perform personal air monitoring every Work shift during which abatement activities occur in order to determine that appropriate respiratory protection is being.
B. The Contractor shall conduct air sampling that is representative of both the 8-hour time weighted average and 30-minute short-term exposures to indicate compliance with the permissible exposure and excursion limits.
C. Results of personnel air sample analyses shall be available, verbally, within twenty-four (24) hours of sampling and shall be posted upon receipt. Written laboratory reports shall be delivered and posted at the Work site within 48 hour.
D. The Contractor may submit a current, relative negative exposure assessment and post it at the job site in lieu of conducting daily personal air monitoring.

1.10 PROJECT SUPERVISOR

A. The Contractor shall designate a full-time Project Supervisor who shall meet the following qualifications:
    1. The Project Supervisor shall hold NCDHHS-HHCU certification as an Asbestos Supervisor.
    2. The Project Supervisor shall meet the requirements of a "Competent Person" as defined by OSHA 1926.1101 and shall have a minimum of one year experience as a supervisor.
    3. The Project Supervisor must be able to read and write English fluently, as well as communicate in the primary language of the Workers.
    4. The Project Supervisor shall be a full time employee of the contractor.
B. If the Project Supervisor is not on-site at any time whatsoever, all Work shall be stopped. The Project Supervisor shall remain on-site until the Project is complete.
C. The Project Supervisor shall maintain the Project Log Book required by section 2.03 of the specifications.
D. The Project Supervisor shall be responsible for the performance of the Work and shall represent the Contractor in all respects at the Project site. The Supervisor shall be the primary point of contact for the Consultant.

1.11 MEDICAL REQUIREMENTS

A. Before exposure to airborne asbestos fibers, provide Workers with a comprehensive medical examination as required by 29 CFR 1910.1001, and 29 CFR 1926.1101.
   1. This examination is not required if adequate records show the employee has been examined as required by 29 CFR 1910.1001, and 29 CFR 1926.1101 within the past year.
   2. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos fibers and within thirty (30) calendar days before or after the termination of employment in such occupations.

B. As required by 29 CFR 1910.1001, and 29 CFR 1926.1101 maintain complete and accurate records of employees' medical examinations for a period of thirty (30) years after termination of employment and make records of the required medical examinations available for inspection and copying to: The Assistant Secretary of Labor for Occupational Safety and Health, the Director of the National Institute for Occupational Safety and Health (NIOSH), authorized representatives of either of them, and an employee's physician upon the request of the employee or former employee.

C. The Contractor shall furnish the Owner evidence of its firm's medical surveillance program required under 29 CFR 1910.1001, and 29 CFR 1926.1101.

1.12 TRAINING

A. As required by applicable regulations, prior to assignment to asbestos Work instruct each employee with regard to the hazards of asbestos, safety and health precautions, and the use and requirements of protective clothing and equipment.

B. Establish a respirator program as required by ANSI Z88.2 and 29 CFR 1910.134, and 29 CFR 1926.1101. Provide respirator training and fit-testing.

1.13 RESPIRATORY PROTECTION

A. Select respirators from those approved by the National Institute for Occupational Safety and Health (NIOSH).

B. Respirators shall be individually fit-tested to personnel under the direction of an Industrial Hygienist on a yearly basis. Fit-tested respirators shall be permanently marked to identify the individual fitted, and use shall be limited to that individual. Fit-test records shall be maintained on site for each employee.

C. Where fiber levels permit, and in compliance with regulatory requirements, ½ face negative pressure respirators equipped with P-100 filter cartridges are the minimum allowable respiratory protection permitted to be utilized during gross removal operations.

D. No respirators shall be issued to personnel without such personnel participating in a respirator training program.

E. High Efficiency Particulate Air (HEPA) respirator filters shall be approved by NIOSH and shall conform to the OSHA requirements in 29 CFR 1910.134 and 29 CFR 1926.1101.

F. A storage area for respirators shall be provided by the Contractor in the clean room side of the personnel decontamination enclosure where they will be kept in a clean environment.

G. The Contractor shall provide and make available a sufficient quantity of respirator filters so that filter changes can be made as necessary during the Work day. Filters will be removed and discarded during the decontamination process. Filters cannot be reused. Filters must be changed if breathing becomes difficult.

H. Filters used with negative pressure air purifying respirators shall not be used any longer than one eight (8) hour Work day.
I. Any authorized visitor, Worker, or supervisor found in the Work Area not wearing the required respiratory protection shall be removed from the Project site and not be permitted to return.

1.14 DELIVERY AND STORAGE

A. Deliver all materials to the job site in original packages with containers bearing manufacturer's name and label.
B. The contractor must be on-site to accept deliver of any and all materials. *School and/or GC employees will not accept delivery of contractor's materials.*
C. Store all materials at the job site in a suitable and designated area.
    1. Store materials subject to deterioration or damage away from wet or damp surfaces and under cover.
    2. Protect materials from unintended contamination.
D. Remove damaged or deteriorated materials from the job site. Materials contaminated with asbestos shall be disposed of as asbestos debris as herein specified.

1.15 TEMPORARY UTILITIES

A. All temporary devices and wiring used in the Work Area shall be capable of decontamination procedures including HEPA vacuuming and wet-wiping.
B. All powered equipment shall utilize Ground Fault Circuit Interrupting (GFCI) receptacles.
C. Utilize domestic water service, if available, from Owner's existing system. Provide hot water heaters with sufficient capacity to meet Project demands.

PART 2 PRODUCTS

2.01 PROTECTIVE CLOTHING

A. Provide personnel utilized during the Project with disposable protective whole body clothing, Head coverings, gloves and foot coverings. Make sleeves secure at the wrists and make foot coverings secure at the ankles by the use of tape, or provide disposable coverings with elastic wrists or tops.
B. Provide sufficient quantities of protective clothing to assure a minimum of four (4) complete disposable outfits per day for each individual performing abatement Work.
C. Eye protection and hard hats shall be provided and don at all times and made available for all personnel entering any Work Area.
D. Authorized visitors shall be provided with suitable protective clothing, headgear, eye protection and footwear whenever they enter the Work Area.

2.02 SIGNS AND LABELS

A. Provide warning signs and barrier tapes at all approaches to asbestos Work Areas. Locate signs at such distance that personnel may read the sign and take the necessary protective steps required before entering the area.

1. Provide danger signs in vertical format conforming to 29 CFR 1926.1101, minimum 20" x 14" displaying the following legend:

DANGER
ASBESTOS CANCER AND LUNG DISEASE
HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING
ARE REQUIRED IN THIS AREA

2. Provide barrier tape printed with black lettered, "DANGER ASBESTOS REMOVAL". Locate barrier tape across all corridors, entrances and access routes to asbestos Work Area. Install tape 3' to 4' from negative air exhaust.

B. Provide asbestos danger labels affixed to all asbestos materials, scrap, waste, debris and other products contaminated with asbestos.

1. Provide asbestos danger labels of sufficient size to be clearly legible, displaying the following legend:

DANGER
CONTAINS ASBESTOS FIBERS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATHE DUST
AVOID CREATING DUST

2. Provide the following asbestos labels, of sufficient size to be clearly legible, for display on waste containers (bags or drums) which will be used to transport asbestos contaminated material in accordance with United States Department of Transportation:

HAZARD SUBSTANCE
CLASS 9
NA2212, III
RQ (ASBESTOS)

Transporter: Name and Telephone
Generating Facility: Name and Address
Date Loaded

3. Generator identification information shall be affixed to each waste container indicating the following printed in indelible ink:

Generator Name:
Facility Name:
Facility Address:

2.03 PROJECT LOG BOOK

A. Provide a Project log book. Log book shall contain on title page the Project name, name, address and phone number of Owner; name, address and phone number of Environmental Consultant; name, address and phone number of Contractor;

emergency numbers including, but not limited to local Fire/Rescue department.

B. All entries into the log shall be made in non-washable, permanent ink. Under no circumstances shall pencil entries be permitted.

C. All persons entering and exiting the Work Area shall sign the log and include name, HHCU Accreditation number, and time.

D. The Project Supervisor shall document all Work performed daily and note all inspections required including but not limited to:

1. Work stoppage due to high air results, as per ICR-56 Section 7.1(d), 8.1(c), 9.2(a)(2).
2. Monometer readings
3. Negative air
4. Inspection of barriers
5. Testing of barriers and enclosures
6. Daily cleaning of enclosure
7. Visual inspections by Consultant, to be documented by the Consultant along with the Supervisor, prior to clearance air sampling and for areas exempt for clearance sampling.
8. Final inspections.
9. Addition log entries to be recorded by the Supervisor include:
    i. Name of Owner, Contractor and Consultant
    ii. Name of Owner onsite representative/project manager and Consultant(s)
    iii. Names of all supervisors and HHCU Accreditation numbers
    iv. Names of all workers and HHCU Accreditation numbers
    v. Names of individual or firm conducting OSHA sampling
    vi. Laboratory analyzing samples and applicable NVLAP numbers
    vii. Type and amount of ACM abated
    viii. Project dates
    ix. Type of respiratory protection used/worn
    x. Daily activities
    xi. Breaks and lunch times

2.04 SCAFFOLDING AND LADDERS

A. If required, provide all scaffolding and/or staging as necessary to accomplish the Work of this Contract. Scaffolding may be of suspension type or standing type such as metal tube and coupler, tubular welded frame, pole or outrigger type or cantilever type. The type, erection and use of all scaffolding and ladders shall comply with all applicable OSHA construction industry standards.

B. Provide scaffolding and ladders as required by the Environmental Consultant for the purposes of performing required inspections.

2.05 SURFACTANT (AMENDED WATER)

A. Wet all asbestos-containing materials prior to removal with surfactant mixed and applied in accordance with manufactures specifications.

2.06 ENCAPSULANT

Use of encapsulant is prohibited.

2.07 DISPOSAL BAGS, DRUMS, AND CONTAINERS

A. Provide 6 mil polyethylene disposal bags printed with asbestos caution labels. Bags shall also be imprinted with U.S. Department of Transportation required markings.
B. Provide 6-mil polyethylene sheeting for wrapping oversized materials. Affix asbestos caution labels on sheeting prior to disposal.
C. Provide 30 or 55 gallon capacity fiber or metal drums capable of being sealed air and water tight if asbestos waste has the potential to damage or puncture disposal bags. Affix asbestos caution labels on lids and at one-third points around drum circumference to assure ready identification.
D. Container wrapped waste and bags must be labeled with the names of the waste generator and the location at which the waste was generated in accordance with 40 CFR Part 61 NESHAPS.
E. Labeled ACM waste containers or bags shall not be used for non-ACM waste or trash. Any material placed in labeled containers or bags, whether turned inside out or not shall be handled and disposed of as ACM waste.

2.08 HEPA VACUUM EQUIPMENT

A. All dry vacuuming performed under this contract shall be performed with High Efficiency Particulate Air (HEPA) filter equipped industrial vacuums conforming to ANSI Z9.2.
B. Provide tools and specialized equipment including scraping nozzles with integral vacuum hoods connected to a HEPA vacuum with flexible hose.

2.09 POWER TOOLS

A. Any power tools used to drill, cut into, or otherwise disturb asbestos material shall be equipped with HEPA filtered local exhaust ventilation.

2.10 POLYETHYLENE SHEETING

A. All polyethylene (plastic) sheeting used on the Project (including but not limited to sheeting used for critical and isolation barriers, fixed objects, walls, floors, ceilings, waste container) shall be at least 6 mil fire retardant sheeting.
B. Decontamination enclosure systems shall utilize at least 6 mil opaque fire retardant plastic sheeting.

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. Should the area beyond the Work Area(s) become contaminated with asbestos containing materials or elevated fiber levels, immediately stop Work and institute emergency procedures. Contaminated non-Work Areas shall be isolated and decontaminated in accordance with procedures established for asbestos removal. All costs incurred in decontaminating such non-Work Areas and the contents thereof shall be borne by the Contractor, at no additional cost to the Owner.
B. HHCU certificates shall be on site prior to admittance of any Contractor's employees to the asbestos Work Area. Contractor shall compile and be able to provide upon request the medical approval, fit test reports, and other related

records for all workers and supervisor performing the Work.

C. Perform all asbestos removal Work using wet removal procedures. Mix and apply surfactant in accordance with manufacturer's written instructions. Dry removal procedures are not permitted.

D. The following submittals, documentation, and postings shall be maintained on-site during abatement activities at a location approved by the Consultant:

1. Original Accreditations issued by NC HHCU for all Supervisors and Workers actively participating on the project.
2. Copies of all Accreditations issued by NC HHCU for all Supervisors and Workers involved with the Project who may not currently be at the project site.
3. Copy of the Consultant/Air Sampling Technicians' daily log.
4. Copy of all air sampling results, including method of analysis.
5. Copy of all OSHA personal air monitoring results
6. Project documents which include:
    a. Asbestos surveys
    b. Asbestos Abatement Specifications and Drawings
    c. Approved Abatement Work Plans
7. Copies of applicable regulations.
8. Safety Data Sheets of supplies/chemicals used on the Project.
9. List of emergency telephone numbers.
10. The supervisor's daily log book and entry/exit logs organized by date.
11. Worker entry/exit log
12. OSHA warning signs and warning tape. Signs must be posted in English, Spanish and the languages spoken by the workers.
13. Notice of the asbestos abatement/building occupant notice.
14. Waste records

E. The Work Area must be vacated by building occupants prior to decontamination enclosure construction and Work Area preparation.

3.02 PERSONNEL DECONTAMINATION ENCLOSURE

A. Provide a personnel DECON that is attached to the NPE. The DECON may not be located within the work areas.

B. Access to the Work Area from the DECON will be from the clean room through an air-lock to the shower, through an air lock to the equipment room, to the Work Area.

C. Provide a temporary shower with individual hot and cold water supplies and faucets. Provide a sufficient supply of liquid soap and shampoo.

D. Shower water shall be drained, collected and filtered through a system with at least a 5.0 micron particle size collection capability containing a series of several filters with progressively smaller pore sizes to avoid rapid clogging of the system. The filtered waste water shall then be discharged in accordance with applicable codes and the contaminated filters disposed of as asbestos waste.

E. The equipment room shall be used for the storage of tools and equipment. A container, lined with a labeled 6 mil plastic ACM waste bag for collection of contaminated clothing and one day supply of replacement filters in sealed containers shall be located in this room.

F. The personal decontamination enclosure shall be cleaned and disinfected minimally at the end of each Work shift and as otherwise directed by the Consultant.

3.03 WASTE DECONTAMINATION ENCLOSURE

A. Provide a waste decontamination enclosure contiguous to the NPE. The decontamination enclosure shall be attached to the NPE and not located within it.
B. The waste decontamination enclosure system shall consist of a holding area, air lock and a wash room with an airlock to the Work Area
C. Where there is only one egress from the Work Area, the holding area of the waste decontamination enclosure system may branch off from the personnel decontamination enclosure equipment room, which then serves as the waste wash room.
D. The waste wash room water shall be drained, collected, and filtered through a system with at least a 5.0 micron particle size collection capability containing a series of several filters with progressively smaller pore sizes to avoid rapid clogging of the system. The filtered waste water shall then be discharged in accordance with applicable codes and the contaminated filters disposed of as asbestos waste.

3.04 WORK AREA ENTRY AND EXIT PROCEDURES

A. Access to and from the asbestos Work Areas is permitted only through the personnel DECON or attached equipment rooms
B. Workers shall sign the entry/exit log upon every entry and exit.
C. The following procedures shall be followed when entering the regulated Work Areas:
    1. Before entering the Work Area, Workers shall proceed to the clean room, remove all street clothes, and don protective clothing, equipment, and respirators.
    2. Workers shall proceed from the clean room through the shower room and the equipment room and into the Work Area.
D. The following procedures shall be followed when exiting the Work Area:
    1. Before leaving the Work Area, gross asbestos contamination will be removed by brushing, wet cleaning and/or HEPA vacuuming.
    2. In the equipment room, Workers shall remove disposable clothing, but not respirators, and shall place clothing in plastic disposal bags for disposal as contaminated debris prior to entering the shower room.
    3. Workers shall shower thoroughly while wearing respirators, then wash respirator with soap and water prior to removal.
    4. Upon exiting the shower, Workers shall don new disposable clothing if the Work shift is to continue or street clothes to exit area. Under no circumstances shall Workers enter public non-Work Areas in disposable protective clothing.

3.05 WORK AREA PREPARATION

A. Asbestos danger signs shall be posted at all approaches to the asbestos Work Area. Post all emergency exits as emergency exits only on the Work Area side, post with asbestos caution signs on the non-Work Area side. Provide all non-Work Area stairs and corridors accessible to the asbestos Work Area with warning tapes at the base of stairs and beginning of corridors. Warning tapes shall be in addition to caution signs.
B. Shut down and lock out the work area heating, ventilating, and air conditioning systems.
C. All surfaces and objects within the Work Area shall be pre-cleaned using HEPA vacuuming and/or wet-wiping methods. Dry sweeping and any other methods that raise dust shall be prohibited. ACM shall not be disturbed during pre-cleaning.
D. Movable objects within the Work Area shall be HEPA vacuumed and/or wet-wiped and

removed from the Work Area.

E. All non-movable equipment in the Work Area shall be completely covered with 1 layer of polyethylene sheeting, at least 4 mil in thickness, and secured in place with duct tape and/or spray adhesive.

F. Provide enclosure of the asbestos Work Area necessary to isolate it from unsealed areas of the building in accordance with the approved asbestos Work plan and as specified herein.

G. Seal off all openings including but not limited to windows, diffusers, grills, electrical outlets and boxes, doors, floor drains, and any other penetrations of the Work Area enclosure, using 1 layer of at least 6 mil polyethylene sheeting to form a critical barrier.

H. Isolation barriers shall be installed at all elevator openings in the Work Area. Elevator controls shall be modified so that elevators bypass the Work Area.

3.06 NEGATIVE AIR PRESSURE FILTRATION SYSTEM

A. Provide a portable asbestos filtration system that develops a minimum pressure differential of negative 0.02 in. of water column within all full enclosure areas relative to adjacent unsealed areas and that provides a minimum of 4 air changes per hour in the Work Area during abatement.

B. Such filtration systems must be operated 24 hours per day during the entire Project until the final cleanup is completed and satisfactory results of the final air samples are received from the laboratory.

C. The system shall include a series of pre-filters and filters to provide High Efficiency Particulate Air (HEPA) filtration of particles down to 0.3 microns at 100% efficiency and below 0.3 microns at 99.9% efficiency. Provide sufficient replacement filters to replace pre-filters every 2 hours, secondary pre-filters every 24 hours, and primary HEPA filters every 600 hours of operation.

D. A minimum of one additional filtration unit of at least the same capacity as the primary unit(s) shall be installed and fully functional to be used during primary unit (s) filter changing and in case of primary failure. There shall be at least one back-up unit for every five primary units.

E. At no time will the units exhaust indoors, within ducts or, within 25 feet of a receptor, including but not limited to windows and doors, or adversely affect the air intake of the building.

F. Upon electric power failure or shut-down of any filtration unit, all abatement activities shall stop immediately and only resume after power is restored and all filtration units are fully operating. For shut-downs longer than one hour, all openings into the Work Area, including the decontamination enclosures shall be sealed.

G. The Contractor shall provide either a manometer or other pressure differential measuring device and measure and record negative pressure differential across the Work Area barriers without interruption 24 hours per day as directed by the Environmental Consultant.

3.07 REMOVAL OF ASBESTOS CONTAINING MATERIALS

A. Asbestos-containing materials shall be removed in accordance with the Contract Documents and all applicable Federal, State and Local rules and regulations and the approved Asbestos Work Plan.

B. Perform cutting, drilling, abrading, or any penetration or disturbance of asbestos containing material in a manner to minimize the dispersal of asbestos fibers into the air. Use equipment and methods specifically designed to limit generation of airborne asbestos particles. All power operated tools used shall be provided with HEPA equipped filtered local exhaust ventilation.

C. Upon removal of ACM from the substrate, the newly exposed surfaces shall be HEPA

vacuumed and/or wet cleaned. Surfaces must be thoroughly cleaned using necessary methods and any required solvents to completely remove any adhesive, mastic, etc.

D. All removed material shall be placed into 6 mil plastic disposal bags or other suitable container upon detachment from the substrate or whenever there is enough accumulation to fill a single bag or container. Maintain the surfaces of the Work Area free of accumulation of asbestos debris.

E. Large components shall be wrapped in two layers of 6 mil polyethylene sheeting. Sharp components likely to tear disposal bags shall be placed in fiber drums or boxes and then wrapped with sheeting.

F. Power or pressure washers will not be allowed to be used for asbestos removal or clean-up procedures.

G. All construction and demolition debris determined by the owner's representative to be contaminated with asbestos shall be handled and disposed of as asbestos waste.

3.08 EQUIPMENT AND WASTE CONTAINER DECONTAMINATION AND REMOVAL PROCEDURES

A. External surfaces of contaminated containers and equipment shall be cleaned by wet cleaning and/or HEPA vacuuming in the Work Area before moving such items into the waste decontamination enclosure system by persons assigned to this duty.

B. The containers and equipment shall be removed from the work area by persons stationed in the Equipment room during waste removal operations. The external surfaces of containers and equipment shall be cleaned a second time by wet cleaning.

C. The cleaned containers of asbestos material and equipment are to be dried of any excessive pooled or beaded liquid, placed in uncontaminated plastic bags or sheeting, as the item's physical characteristics demand, and sealed airtight.

D. The clean recontainerized items shall be moved to the waste hauler.

3.09 APPLICATION OF ENCAPSULANT

The use of encapsulant is not required this project

3.10 WORK AREA DECONTAMINATION

A. Following completion of gross abatement and after all accumulations of asbestos waste materials have been containerized, the following decontamination procedures shall be followed.

1. All bagged/wrapped asbestos waste and unnecessary equipment shall be decontaminated and removed from the Work Area.
2. All surfaces in the Work Area shall be wet cleaned. A wet-purpose shop vacuum may be used to pick up excess liquid, and shall be decontaminated prior to removal from the Work Area.
3. The Consultant shall conduct a visual inspection of the Work Area for cleanliness and completion of abatement.
4. The Work Area shall be vacated until the area is dry from the final cleaning and no visible pools of water or condensation remains.
5. Aggressive final clearance air sampling shall then be conducted by the owner's representative (Accredited NC Air Monitor) within regulated work areas.
6. Upon receipt of satisfactory final clearance air sampling results, the negative air pressure

equipment can then be shut down and decontamination areas and isolation and critical barriers removed.

B. After isolation and critical barriers are removed, the owner's representative shall inspect the Work Area for cleanliness. If necessary, additional cleaning shall be performed by the Contractor as directed by the owner's representative.

C. As a result of any visual inspection by the owner's representative, or should air sampling results indicate high fiber levels, the Contractor will clean or reclean the affected areas at no additional expense to the Owner.

PART 4 DISPOSAL OF ASBESTOS WASTE

4.01 APPLICABLE REGULATIONS

A. All asbestos waste shall be stored, transported and disposed of in accordance with the following regulations as a minimum:

1. US EPA NESHAPS 40 CFR 61
2. US EPA Asbestos Waste Management Guidance EPA/530-SW85

4.02 TRANSPORTATION AND DISPOSAL SITE

A. The Contractor's Hauler and Disposal Site shall be approved by the Owner or Owners representative.

B. The Contractor shall give twenty-four (24) hour notification prior to removing any waste from the site. Waste shall be removed from the site only during normal Working hours unless otherwise specified. No waste may be taken from the site unless the Environmental Consultant is present and authorizes the release of the waste as described herein.

C. The Contractor shall have the Hauler provide the estimated date and time of arrival at the Disposal Site.

D. Unless specifically approved by the Owner, the Contractor shall not permit any off-site transfers of the waste or allow the waste to be transported or combined with any other off-site asbestos material. The Hauler must travel directly to the disposal site with no unauthorized stops.

4.03 WASTE STORAGE CONTAINERS

A. All waste containers shall be fully enclosed and lockable (i.e. enclosed dumpster, trailer, etc.). No open containers will be permitted on-site (i.e. open dumpster with canvas cover, etc.

B. The container shall be plasticized and sealed with a minimum of one (1) layer of 6 mil polyethylene sheeting. Once on site, it shall be kept locked at all times, except during load out.

C. While on-site, the container shall be labeled with EPA Danger signage:

DANGER
CONTAINS ASBESTOS FIBERS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATHE DUST
AVOID CREATING DUST

D. The container is not permitted to be loaded unless it is properly plasticized, has the appropriate danger signage affixed.
E. The Owner may initiate random checks at the Disposal Site to insure that the procedures outlined herein are complied with.

END OF SECTION

TRANSITE SIDING REMOVAL

TRANSITE SOFFIT REMOVAL

ASBESTOS FLOOR TILE/MASTIC REMOVAL

TRANSITE FASCIA AND SOFFIT REMOVAL

ASBESTOS MASTIC ASSOCIATED WITH NON ASBESTOS FLOOR TILE REMOVAL

ROOM NAME LEGEND

AP	ASSISTANT PRINCIPAL
CW	CAN WASH
CR	CLASSROOM
C	CLOSET
CONF	CONFERENCE ROOM
CUST	CUSTODIAN
E	ELECTRICAL ROOM
GC	GUIDANCE COUNSELOR
MCR	MOBILE CLASS ROOM
MECH	MECHANICAL ROOM
O	OFFICE
PRIN	PRINCIPAL OFFICE
RM	ROOM
STO	STORAGE
T (B)	TOILET (BOYS)
T (G)	TOILET (GIRLS)
T (M)	TOILET (MEN)
T (W)	TOILET (WOMEN)
WR	WORK ROOM
WW	WARE WASH

ROOM INFORMATION LEGEND

1	RM 5	ELECTRICAL RM	76 sf
2	RM 6	TOILET	60 sf
3	RM 11	WORK RM	60 sf
4	RM 19	CUSTODIAN	54 sf
5	RM 20	STORAGE	54 sf
6	RM F4	CLOSET	24 sf
7	RM F4A	CLOSET	24 sf
8	RM F5	CLOSET	20 sf
9	RM T3A	TOILET (W)	20 sf
10	RM T3B	TOILET (M)	20 sf

ROOM INFORMATION LEGEND

1	RM A15	GUIDANCE COUNSELOR	95 sf
2	RM A16	TOILET (W)	64 sf
3	RM A19	TOILET (M)	70 sf
4	CORRIDOR C		53 sf
5	RM F29	FREEZER/COOLER	180 sf
6	RM F4	LOCKERS/TOILET	63 sf
7	RM M8	WORK RM	60 sf
8	RM M10	INSTRUMENT STORAGE	64 sf
9	RM M14	OFFICE	36 sf
10	CORRIDOR G		64 sf
11	RM O16	STORAGE	50 sf
12	RM T1A	TOILET (W)	20 sf
13	RM T1B	TOILET (M)	20 sf
14	RM T2A	TOILET (W)	20 sf
15	RM T2B	TOILET (M)	20 sf

EMMA B. TRASK MIDDLE SCHOOL - NEW HANOVER COUNTY, NC			
FLOOR 1/MEZ.	BUILDING NO. A	SCHOOL CODE: 325	PAGE 1 OF 1
ASBESTOS ABATEMENT	FILE: 119-0006-1R	DATE OF DRAWING: 18 MARCH 2019	

PRECISION ENVIRONMENTAL INC.

North Carolina Department of Health and Human Services

Division of Public Health

Roy Cooper
Governor

Mandy Cohen, MD, MPH
Secretary

Daniel Stanley
Director

April 4, 2018

Jonathan A Guetta
161 Arlington Dr
Wilmington, NC 28401

Dear Mr. Guetta:

Based upon the review of your accreditation application, the Health Hazards Control Unit (HHCU) has determined that you have fulfilled the requirements and are eligible for asbestos accreditation as a(n) ABATEMENT PROJECT DESIGNER. Your assigned North Carolina accreditation number is 40364, which is reflected on your enclosed North Carolina Accreditation card. Please be sure to take this card with you to any asbestos work site where you are employed. The State requires that all persons conducting asbestos abatement or asbestos management activities be accredited and have their identification card on site.

Your North Carolina Abatement Project Designer accreditation will expire on MARCH 31, 2019. It is NOT the policy of the HHCU to issue renewal notices. If you wish to continue working as a(n) Abatement Project Designer after this expiration date, you must successfully complete the required training and submit a completed application to this office prior to March 31, 2019. If you should continue to perform asbestos management activities as a(n) Abatement Project Designer without a valid North Carolina accreditation, you will be in violation of State regulations and may be cited for noncompliance.

Sincerely,

Ed Norman
Program Manager
Health Hazards Control Unit

Enclosure

Location: 5505 Six Forks Road, Raleigh, NC 27609 | Mailing Address: 1912 Mail Service Center, Raleigh, NC 27699-1912
919-707-5950 T | 919-870-4808 F
An Equal Opportunity / Affirmative Action Employer

PRECISION ENVIRONMENTAL INC.

3802 Cherry Ave., Wilmington, NC 28403
Tel: 910-763-3445 Fax: 910-763-3415
www.precision-enviro.com

April 23, 2018

New Hanover County Schools
Attn: Kim Gordon
6410 Carolina Beach Road
Wilmington, NC 28412

Re: Asbestos Bulk Sampling & Analysis at:
Trask Middle School
2900 N. College Road
Wilmington, NC 28405
Precision Project No.: 5104-18-0008-1A

On April 17, 2018 and April 18, 2018, Michael Krupa (NC Asbestos Building Inspector Accreditation No. 12880) of Precision Environmental, Inc. (Precision) conducted an asbestos survey at the above referenced facility.

The purpose of the survey was to verify the presence or absence of asbestos-containing materials (ACM) associated with the structure prior to renovation procedures.

Prior to sample collection, a visual inspection was conducted in order to determine homogeneous materials/areas and sample locations. Asbestos-containing materials are defined as materials that contain greater than 1% asbestos via Polarized Light Microscopy (PLM). Homogeneous Areas (HGA) are determined by the material's color and texture. Asbestos-containing materials are defined by the following descriptions: surfacing material (SM), thermal system insulation (TSI) and miscellaneous materials (M). Both friable and non-friable materials were included in the inspection. Friable materials are defined as those that can be pulverized by hand pressure.

Bulk sampling of suspect ACM was conducted in accordance with the sampling requirements promulgated by the United States Environmental Protection Agency's "Asbestos-Containing Materials in Schools Rule" (40 CFR 763, Subpart E), commonly referred to as the "Asbestos Hazard Emergency Response Act" or AHERA regulations. Sample locations were selected at random.

As a result, a total of ninety-six (96) bulk samples were collected from forty-eighty (48) different suspect asbestos-containing materials. A listing of identified suspect ACM materials and the number of samples collected from each homogeneous area (HGA) is provided in Table 1 below:

Table 1: Identified Asbestos Suspect Materials

Suspect material (HGA)	Description	Friable/Non-friable	Sample Location	No. of Samples Collected
1. Gypsum roof deck	M	F	Roof A1	2
2. White roof mastic on EPDM roofing and flashing	M	NF	Roof A1	2
3. White roof mastic on EPDM roofing and flashing	M	NF	Roof A2	2
4. Cap flashing caulking	M	NF	Roofs A1 and A2	2

Suspect material (HGA)	Description	Friable/Non-friable	Sample Location	No. of Samples Collected
5. White roof mastic on EPDM roofing and flashing	M	NF	Roof A3	2
6. Metal coping cover caulking	M	NF	Roofs A1, A2, A3, A4, A7, A8, A9, A10 and A11	2
7. Built-up roofing	M	NF	Roof A4	2
8. Gray particulate surfaced roof flashing	M	NF	Roof A4	2
9. Black roof flashing seam mastic	M	NF	Roof A4	2
10. Vent pipe mastic	M	NF	Roof A4	2
11. Remnant white cap flashing caulking	M	NF	Roof A4 at wall to Roof A3	2
12. Black mastic on EPDM roofing and flashing	M	NF	Roof A5	2
13. Metal coping cover caulking	M	NF	Roof A5	2
14. Black mastic on EPDM roofing and flashing	M	NF	Roof A6	2
15. Cap flashing caulking	M	NF	Roof A6	2
16. Built-up roofing	M	NF	Roof A7	2
17. Gray particulate surfaced roof flashing	M	NF	Roof A7	2
18. Black roof flashing seam mastic	M	NF	Roof A7	2
19. Vent pipe mastic	M	NF	Roof A7	2
20. Built-up roofing	M	NF	Roof A8	2
21. Gypsum roof deck	M	F	Roof A8	2
22. Gray particulate surfaced roof flashing	M	NF	Roof A8	2
23. Black roof flashing seam mastic	M	NF	Roof A8	2
24. Vent pipe mastic	M	NF	Roof A8	2
25. Pitch pocket tar	M	NF	Roof A8	2
26. Built-up roofing	M	NF	Roof A9	2
27. Gray particulate surfaced roof flashing	M	NF	Roof A9	2
28. Black roof flashing seam mastic	M	NF	Roof A9	2
29. Vent pipe mastic	M	NF	Roof A9	2
30. Built-up roofing	M	NF	Roof A10	2
31. Gray particulate surfaced roof flashing	M	NF	Roof A10	2
32. Black roof flashing seam mastic	M	NF	Roof A10	2

Suspect material (HGA)	Description	Friable/Non-friable	Sample Location	No. of Samples Collected
33. Vent pipe mastic	M	NF	Roof A10	2
34. Pitch pocket tar	M	NF	Roof A10	2
35. Built-up roofing	M	NF	Roof A11	2
36. Gray particulate surfaced roof flashing	M	NF	Roof A11	2
37. Black roof flashing seam mastic	M	NF	Roof A11	2
38. Cement fiber freeze panel board	M	NF	Wall between Roof A9 and Roof A11	2
39. Cement fiber freeze panel board	M	NF	Wall between Room A3 and Roof A4	3
40. Caulking at freeze panels	M	NF	Wall between Roof A9 and Roof A11	2
41. Caulking at freeze panels	M	NF	Wall between Room A3 and Roof A4	2
42. Cement fiber freeze panel board	M	NF	Kitchen 1992 façade	2
43. Caulking at freeze panels	M	NF	Kitchen 1992 façade	2
44. Cement fiber freeze panel board	M	NF	1989 façade	2
45. Gypsum board soffit	M	F	1989 façade at underside of freeze panels	2
46. Gypsum board partition wall	M	F	Interior Classrooms (Room C7)	2
47. Brown covebase mastic	M	NF	Interior Classrooms (Room C7)	2
48. Cement fiber freeze panel board	M	NF	Courtyard façades	2

SM: Surfacing material TSI: Thermal System Insulation M: Miscellaneous material
F: Friable NF: Non-Friable

Collected samples were given a unique identification number, which included the date, the inspector's initials (MK) and sample number, logged onto a chain of custody form and shipped to an accredited laboratory for analysis. All samples were analyzed by Polarized Light Microscopy (PLM) via EPA method 600/M4/82/020. Multi layered samples were separated prior to analysis and analyzed separately per EPA protocol. In an effort to reduce cost, Precision instructed the laboratory to STOP analysis at the first positive sample for each suspect material HGA and not to analyze the remaining samples from the same HGA. As a result, a total of ninety-three (93) samples were analyzed.

Results

Laboratory analysis of bulk samples collected revealed that suspect materials 38, 89 and 48 contain asbestos in quantities greater than 1% and are considered to be asbestos containing materials. . The remaining suspect materials revealed either trace (suspect material 8) or no asbestos detected and may be treated as NON-ACM.

Listing of identified ACM and NON-ACM materials is provided in Table 2 below:

Table 2: Identified ACM and NON-ACM Materials

Material	Description	Friable/ Non-friable	Location	Laboratory Result	Approx. Quantity
1. Gypsum roof deck	M	F	Roof A1	None detected	N/A
2. White roof mastic on EPDM roofing and flashing	M	NF	Roof A1	None detected	N/A
3. White roof mastic on EPDM roofing and flashing	M	NF	Roof A2	None detected	N/A
4. Cap flashing caulking	M	NF	Roofs A1 and A2	None detected	N/A
5. White roof mastic on EPDM roofing and flashing	M	NF	Roof A3	None detected	N/A
6. Metal coping cover caulking	M	NF	Roofs A1, A2, A3, A4, A7, A8, A9, A10 and A11	None detected	N/A
7. Built-up roofing	M	NF	Roof A4	None detected	N/A
8. Gray particulate surfaced roof flashing	M	NF	Roof A4	0.5% Chrysotile asbestos	N/A
9. Black roof flashing seam mastic	M	NF	Roof A4	None detected	N/A
10. Vent pipe mastic	M	NF	Roof A4	None detected	N/A
11. Remnant white cap flashing caulking	M	NF	Roof A4 at wall to Roof A3	None detected	N/A
12. Black mastic on EPDM roofing and flashing	M	NF	Roof A5	None detected	N/A
13. Metal coping cover caulking	M	NF	Roof A5	None detected	N/A
14. Black mastic on EPDM roofing and flashing	M	NF	Roof A6	None detected	N/A
15. Cap flashing caulking	M	NF	Roof A6	None detected	N/A
16. Built-up roofing	M	NF	Roof A7	None detected	N/A
17. Gray particulate surfaced roof flashing	M	NF	Roof A7	None detected	N/A
18. Black roof flashing seam mastic	M	NF	Roof A7	None detected	N/A
19. Vent pipe mastic	M	NF	Roof A7	None detected	N/A
20. Built-up roofing	M	NF	Roof A8	None detected	N/A
21. Gypsum roof deck	M	F	Roof A8	None detected	N/A
22. Gray particulate surfaced roof flashing	M	NF	Roof A8	None detected	N/A

Material	Description	Friable/ Non-friable	Location	Laboratory Result	Approx. Quantity
23. Black roof flashing seam mastic	M	NF	Roof A8	None detected	N/A
24. Vent pipe mastic	M	NF	Roof A8	None detected	N/A
25. Pitch pocket tar	M	NF	Roof A8	None detected	N/A
26. Built-up roofing	M	NF	Roof A9	None detected	N/A
27. Gray particulate surfaced roof flashing	M	NF	Roof A9	None detected	N/A
28. Black roof flashing seam mastic	M	NF	Roof A9	None detected	N/A
29. Vent pipe mastic	M	NF	Roof A9	None detected	N/A
30. Built-up roofing	M	NF	Roof A10	None detected	N/A
31. Gray particulate surfaced roof flashing	M	NF	Roof A10	None detected	N/A
32. Black roof flashing seam mastic	M	NF	Roof A10	None detected	N/A
33. Vent pipe mastic	M	NF	Roof A10	None detected	N/A
34. Pitch pocket tar	M	NF	Roof A10	None detected	N/A
35. Built-up roofing	M	NF	Roof A11	None detected	N/A
36. Gray particulate surfaced roof flashing	M	NF	Roof A11	None detected	N/A
37. Black roof flashing seam mastic	M	NF	Roof A11	None detected	N/A
38. Cement fiber freeze panel board	M	NF	1976 Wing at Roof A11/Gymnasium façades	12% Chrysotile asbestos	1,085 SF
39. Cement fiber freeze panel board	M	NF	1976 Wing at Roof A3/Cafeteria façades	16% Chrysotile asbestos	2,070 SF
40. Caulking at freeze panels	M	NF	Wall between Roof A9 and Roof A11	None detected	N/A
41. Caulking at freeze panels	M	NF	Wall between Room A3 and Roof A4	None detected	N/A
42. Cement fiber freeze panel board	M	NF	Kitchen 1992 façade	None detected	N/A
43. Caulking at freeze panels	M	NF	Kitchen 1992 façade	None detected	N/A
44. Cement fiber freeze panel board	M	NF	1989 façade	None detected	N/A
45. Gypsum board soffit	M	F	1989 façade at underside of freeze panels	None detected	N/A
46. Gypsum board partition wall	M	F	Interior Classrooms (Room C7)	None detected	N/A
47. Brown covebase mastic	M	NF	Interior Classrooms (Room C7)	None detected	N/A
48. Cement fiber freeze panel board	M	NF	1976 Wing Courtyard façades	10% Chrysotile asbestos	330 SF

SF = Square Feet N/A = Not Applicable

Based on the sample analysis, the following materials should be considered to be Asbestos-Containing Materials:

- Cement fiber freeze panel boards associated with the 1976 Wing at Roof A11/Gymnasium façades (approximately 1,085 square feet)
- Cement fiber freeze panel boards associated with the 1976 Wing at Roof A3/Cafeteria façades (approximately 2,070 square feet)
- Cement fiber freeze panel boards associated with the 1976 Wing Courtyard façades (approximately 330 square feet)

A physical/visual inspection revealed the following:

- Confirmed asbestos-containing cement fiber freeze panel boards were noted on three facades within the Courtyard, including beneath the T1-11 board.
- Roof A1 was noted to consist of non-suspect EPDM roofing material, fiberboard roofing insulation, polystyrene roofing insulation, fiberglass roofing insulation, and gypsum roof deck material on a corrugated metal roof deck.
- Roofs A2, A3, A5 and A6 were noted to consist of non-suspect EPDM roofing material and polystyrene roofing insulation on corrugated metal roof decks.
- Roofs A4, A7, A9, A10 and A11 were noted to consist of stone roof ballast, built-up roofing material, fiberboard roofing insulation and polystyrene roofing insulation on corrugated metal roof decks.
- Roof A8 was noted to consist of stone roof ballast, built-up roofing material, fiberboard roofing insulation, polystyrene roofing insulation and gypsum roof deck material on a corrugated metal roof deck.
- Non-suspect silicone caulking was noted at the cap flashing on Roof A9 where it intersects Roof A11.
- Non-suspect silicone caulking was noted at the cap flashing on Room A10 where it intersects Roof A11.
- No suspect asbestos-containing vapor barrier materials were noted between the roofing decks and the roofing systems on the roofs inspected during this survey.
- No caulking materials were noted to exists between the freeze panels associated with the 1989 Wing façades.

Asbestos-containing materials are a regulated material and must be handled accordingly. If the materials are to be disturbed/removed, the materials must be removed in accordance with all applicable Federal, State and Local regulations. In addition, the materials must be disposed of asbestos-containing waste and may not be disposed of as construction debris.

If additional materials not addressed during this inspection are to be disturbed, Precision strongly recommends that those materials either be assumed to be asbestos-containing, or that bulk samples be collected to determine the materials asbestos content prior to their disturbance.

All bulk sample analytical results as well sample locations are outlined in detail on the attached “BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM” form and laboratory’s “BULK ASBESTOS ANALYSIS RESULTS” form.

Attached please find the following:

- Bulk Asbestos Analysis Sheet
- Bulk Sample Data And Chain Of Custody Form
- Laboratory and Personnel Certificates

If you have any questions or require additional information, please do not hesitate to contact me at (910) 763-3445.

Sincerely,
Precision Environmental, Inc.

Michael Krupa
NC Asbestos Inspector Accreditation #12880

PRECISION ENVIRONMENTAL INC.
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BULK ASBESTOS ANALYSIS RESULTS

Client: New Hanover County Schools
6410 Carolina Beach Rd.
Wilmington , NC 28412

Project: 2900 N. College Road
2900 N. College Road
Wilmington, NC 28405

Location: Entire School and Rooftops

Sampling Date : 4/17/2018
Date Received : 4/19/2018 11:40:00 AM
Date Analyzed : 4/20/2018
Precision Batch # 18-3902
Methods: EPA 600/M4/ 82/ 020 ☑
ELAP 198.1 ☐

Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*
041718-MK-01 *18-3902 -1*	Roof A1	Gypsum roof deck	PLM	Brown		NONE DETECTED	Trace% Cellulose 1% FiberGlass	99% Mineral Filler
041718-MK-02 *18-3902 -2*	Roof A1	Gypsum roof deck	PLM	Brown		NONE DETECTED	Trace% Cellulose 1% FiberGlass	99% Mineral Filler Trace% Organic Bind
041718-MK-03 *18-3902 -3*	Roof A1	White roof mastic on EPDM roofing and flashing	PLM	White		NONE DETECTED	Trace% FiberGlass 3% Synthetic	17% Mineral Filler 80% Organic Binder
041718-MK-04 *18-3902 -4*	Roof A1	White roof mastic on EPDM roofing and flashing	PLM	White		NONE DETECTED	Trace% FiberGlass 2% Synthetic	18% Mineral Filler 80% Organic Binder
041718-MK-05 *18-3902 -5*	Roof A2	White roof mastic on EPDM roofing and flashing	PLM	White		NONE DETECTED	Trace% FiberGlass Trace% Synthetic	15% Mineral Filler 85% Organic Binder
041718-MK-06 *18-3902 -6*	Roof A2	White roof mastic on EPDM roofing and flashing	PLM	White		NONE DETECTED	Trace% FiberGlass 4% Synthetic	16% Mineral Filler 80% Organic Binder
041718-MK-07 *18-3902 -7*	Roofs A1 and A2	Cap flashing caulking	PLM	Brown		NONE DETECTED		12% Mineral Filler 88% Organic Binder
041718-MK-08 *18-3902 -8*	Roofs A1 and A2	Cap flashing caulking	PLM	Brown		NONE DETECTED		10% Mineral Filler 90% Organic Binder

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Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*
041718-MK-09 *18-3902 -9*	Roof A3	White roof mastic on EPDM roofing and flashing	PLM	Red		NONE DETECTED	Trace% FiberGlass	12% Mineral Filler 88% Organic Binder
041718-MK-10 *18-3902 -10*	Roof A3	White roof mastic on EPDM roofing and flashing	PLM	Red		NONE DETECTED	Trace% FiberGlass	15% Mineral Filler 85% Organic Binder
041718-MK-11 *18-3902 -11*	Roofs A1, A2, A3, A4, A7, A8, A9, A10, A11	Metal coping cover caulking	PLM	Black		NONE DETECTED		12% Mineral Filler 88% Organic Binder
041718-MK-12 *18-3902 -12*	Roofs A1, A2, A3, A4, A7, A8, A9, A10, A11	Metal coping cover caulking	PLM	Black		NONE DETECTED		14% Mineral Filler 86% Organic Binder
041718-MK-13 *18-3902 -13*	Roof A4	Built-up roofing	PLM	Black		NONE DETECTED	10% Cellulose 8% FiberGlass Trace% Synthetic	10% Mineral Filler 72% Organic Binder
041718-MK-14 *18-3902 -14*	Roof A4	Built-up roofing	PLM	Black		NONE DETECTED	8% Cellulose 12% FiberGlass Trace% Synthetic	10% Mineral Filler 70% Organic Binder
041718-MK-15 *18-3902 -15*	Roof A4	Gray partiulate surfaced roof flashing	PLM	Black		NONE DETECTED	Trace% Cellulose Trace% FiberGlass 4% Synthetic	16% Mineral Filler 80% Organic Binder
041718-MK-16 *18-3902 -16*	Roof A4	Gray particulate surfaced roof flashing	PLM	Black		0.5% Chrysotile	Trace% Cellulose 5% Synthetic	18.5% Mineral Filler 76% Organic Binder

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Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*
041718-MK-17 *18-3902 -17*	Roof A4	Black roof flashing seam mastic	PLM	Black		NONE DETECTED	4% Cellulose	16% Mineral Filler 80% Organic Binder
041718-MK-18 *18-3902 -18*	Roof A4	Black roof flashing seam mastic	PLM	Black		NONE DETECTED	3% Cellulose	17% Mineral Filler 80% Organic Binder
041718-MK-19 *18-3902 -19*	Roof A4	Vent pipe mastic	PLM	Black		NONE DETECTED	Trace% Cellulose	10% Mineral Filler 90% Organic Binder
041718-MK-20 *18-3902 -20*	Roof A4	Vent pipe mastic	PLM	Black		NONE DETECTED	Trace% Cellulose	8% Mineral Filler 92% Organic Binder
041718-MK-21 *18-3902 -21*	Roof A4 at wall to roof A3	Remnant white cap flashing caulking	PLM	Lt gray		NONE DETECTED		30% Mineral Filler 70% Organic Binder
041718-MK-22 *18-3902 -22*	Roof A4 at wall to roof A3	Remnant white cap flashing caulking	PLM	Lt gray		NONE DETECTED		32% Mineral Filler 68% Organic Binder
041718-MK-23 *18-3902 -23*	Roof A5	Black mastic on EPDM roofing and flasing	PLM	Black		NONE DETECTED		15% Mineral Filler 85% Organic Binder
041718-MK-24 *18-3902 -24*	Roof A5	Black mastic on EPDM roofing and flashing	PLM	Black		NONE DETECTED		14% Mineral Filler 86% Organic Binder

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Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*
041718-MK-25 *18-3902 -25*	Roof A5	Metal coping cover caulking	PLM	Offwhite		NONE DETECTED		10% Mineral Filler 90% Organic Binder
041718-MK-26 *18-3902 -26*	Roof A5	Metal coping cover caulking	PLM	Offwhite		NONE DETECTED		8% Mineral Filler 92% Organic Binder
041718-MK-27 *18-3902 -27*	Roof A6	Black mastic on EPDM roofing and flashing	PLM	Black		NONE DETECTED		16% Mineral Filler 84% Organic Binder
041718-MK-28 *18-3902 -28*	Roof A6	Black mastic on EPDM roofing and flashing	PLM	Black		NONE DETECTED		15% Mineral Filler 85% Organic Binder
041718-MK-29 *18-3902 -29*	Roof A6	Cap flashing caulking	PLM	Lt gray		NONE DETECTED		20% Mineral Filler 80% Organic Binder
041718-MK-30 *18-3902 -30*	Roof A6	Cap flashing caulking	PLM	Lt gray		NONE DETECTED		22% Mineral Filler 78% Organic Binder
041718-MK-31 *18-3902 -31*	Roof A7	Built-up roofing	PLM	Black		NONE DETECTED	6% Cellulose 15% FiberGlass	14% Mineral Filler 65% Organic Binder
041718-MK-32 *18-3902 -32*	Roof A7	Built-up roofing	PLM	Black		NONE DETECTED	5% Cellulose 15% FiberGlass	10% Mineral Filler 70% Organic Binder

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ELAP 198.1 ☐

Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*
041718-MK-33 *18-3902 -33*	Roof A7	Gray particulate surfaced roof flashing	PLM	Black		NONE DETECTED	Trace% Cellulose 10% FiberGlass 8% Synthetic	12% Mineral Filler 70% Organic Binder
041718-MK-34 *18-3902 -34*	Roof A7	Gray particulate surfaced roof flashing	PLM	Black		NONE DETECTED	Trace% Cellulose 5% FiberGlass 4% Synthetic	16% Mineral Filler 75% Organic Binder
041718-MK-35 *18-3902 -35*	Roof A7	Black roof flashing seam mastic	PLM	Black		NONE DETECTED	5% Cellulose	15% Mineral Filler 80% Organic Binder
041718-MK-36 *18-3902 -36*	Roof A7	Black roof flashing seam mastic	PLM	Black		NONE DETECTED	5% Cellulose	17% Mineral Filler 78% Organic Binder
041718-MK-37 *18-3902 -37*	Roof A7	Vent pipe mastic	PLM	Black		NONE DETECTED	2% Cellulose	13% Mineral Filler 85% Organic Binder
041718-MK-38 *18-3902 -38*	Roof A7	Vent pipe mastic	PLM	Black		NONE DETECTED	Trace% Cellulose	10% Mineral Filler 90% Organic Binder
041718-MK-39 *18-3902 -39*	Roof A8	Built-up roofing	PLM	Black		NONE DETECTED	8% Cellulose 5% FiberGlass	17% Mineral Filler 70% Organic Binder
041718-MK-40 *18-3902 -40*	Roof A8	Built-up roofing	PLM	Black		NONE DETECTED	6% Cellulose 5% FiberGlass	19% Mineral Filler 70% Organic Binder

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Methods: EPA 600/M4/ 82/ 020 ☑
ELAP 198.1 ☐

Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*
041718-MK-41 *18-3902 -41*	Roof A8	Gypsum roof deck	PLM	White		NONE DETECTED	15% Cellulose 2% FiberGlass	83% Mineral Filler
041718-MK-42 *18-3902 -42*	Roof A8	Gypsum roof deck	PLM	White		NONE DETECTED	Trace% Cellulose 2% FiberGlass	98% Mineral Filler
041718-MK-43 *18-3902 -43*	Roof A8	Gray particulate surfaced roof flashing	PLM	Black		NONE DETECTED	Trace% Cellulose 5% FiberGlass 8% Synthetic	17% Mineral Filler 70% Organic Binder
041718-MK-44 *18-3902 -44*	Roof A8	Gray particulate surfaced roof flashing	PLM	Black		NONE DETECTED	Trace% Cellulose 5% FiberGlass 6% Synthetic	19% Mineral Filler 70% Organic Binder
041718-MK-45 *18-3902 -45*	Roof A8	Black roof flashing seam mastic	PLM	Black		NONE DETECTED	4% Cellulose	16% Mineral Filler 80% Organic Binder
041718-MK-46 *18-3902 -46*	Roof A8	Black roof flashing seam mastic	PLM	Black		NONE DETECTED	5% Cellulose	15% Mineral Filler 80% Organic Binder
041718-MK-47 *18-3902 -47*	Roof A8	Vent pipe mastic	PLM	Black		NONE DETECTED		10% Mineral Filler 90% Organic Binder
041718-MK-48 *18-3902 -48*	Roof A8	Vent pipe mastic	PLM	Black		NONE DETECTED		8% Mineral Filler 92% Organic Binder

PRECISION ENVIRONMENTAL INC.
36-15A 23rd Street, LIC, NY 11106
Tel: 718.383.2626, Fax: 718.383.7780
Accredited by NVLAP #200640-0, NY State ELAP #11764

BULK ASBESTOS ANALYSIS RESULTS

Client: New Hanover County Schools
6410 Carolina Beach Rd.
Wilmington , NC 28412

Project: 2900 N. College Road
2900 N. College Road
Wilmington, NC 28405

Location: Entire School and Rooftops

Sampling Date : 4/17/2018
Date Received : 4/19/2018 11:40:00 AM
Date Analyzed : 4/20/2018
Precision Batch # 18-3902
Methods: EPA 600/M4/ 82/ 020 ☑
ELAP 198.1 ☐

Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*
041718-MK-49 *18-3902 -49*	Roof A8	Pitch pocket tar	PLM	Black		NONE DETECTED	4% Cellulose	16% Mineral Filler 80% Organic Binder
041718-MK-50 *18-3902 -50*	Roof A8	Pitch pocket tar	PLM	Black		NONE DETECTED	5% Cellulose	15% Mineral Filler 80% Organic Binder
041718-MK-51 *18-3902 -51*	Roof A9	Built-up roofing	PLM	Black		NONE DETECTED	5% Cellulose 12% FiberGlass	13% Mineral Filler 70% Organic Binder
041718-MK-52 *18-3902 -52*	Roof A9	Built-up roofing	PLM	Black		NONE DETECTED	6% Cellulose 12% FiberGlass	12% Mineral Filler 70% Organic Binder
041718-MK-53 *18-3902 -53*	Roof A9	Gray particulate surfaced roof flashing	PLM	Black		NONE DETECTED	Trace% Cellulose 5% FiberGlass 6% Synthetic	19% Mineral Filler 70% Organic Binder
041718-MK-54 *18-3902 -54*	Roof A9	Gray particulate surfaced roof flashing	PLM	Black		NONE DETECTED	4% Cellulose Trace% FiberGlass 5% Synthetic	19% Mineral Filler 72% Organic Binder
041718-MK-55 *18-3902 -55*	Roof A9	Black roof flashing seam mastic	PLM	Black		NONE DETECTED	5% Cellulose	15% Mineral Filler 80% Organic Binder
041718-MK-56 *18-3902 -56*	Roof A9	Black roof flashing seam mastic	PLM	Black		NONE DETECTED	4% Cellulose	16% Mineral Filler 80% Organic Binder

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BULK ASBESTOS ANALYSIS RESULTS

Client: New Hanover County Schools
6410 Carolina Beach Rd.
Wilmington , NC 28412

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2900 N. College Road
Wilmington, NC 28405

Location: Entire School and Rooftops

Sampling Date : 4/17/2018
Date Received : 4/19/2018 11:40:00 AM
Date Analyzed : 4/20/2018
Precision Batch # 18-3902
Methods: EPA 600/M4/ 82/ 020 ☑
ELAP 198.1 ☐

Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*
041718-MK-57 *18-3902 -57*	Roof A9	Vent pipe mastic	PLM	Black		NONE DETECTED	5% Cellulose	15% Mineral Filler 80% Organic Binder
041718-MK-58 *18-3902 -58*	Roof A9	Vent pipe mastic	PLM	Black		NONE DETECTED		10% Mineral Filler 90% Organic Binder
041718-MK-59 *18-3902 -59*	Roof A10	Built-up roofing	PLM	Black		NONE DETECTED	3% Cellulose 5% FiberGlass	12% Mineral Filler 80% Organic Binder
041718-MK-60 *18-3902 -60*	Roof A10	Built-up roofing	PLM	Black		NONE DETECTED	5% Cellulose 5% FiberGlass	10% Mineral Filler 80% Organic Binder
041718-MK-61 *18-3902 -61*	Roof A10	Gray particulate surfaced roof flashing	PLM	Black		NONE DETECTED	Trace% Cellulose 4% FiberGlass 5% Synthetic	19% Mineral Filler 72% Organic Binder
041718-MK-62 *18-3902 -62*	Roof A10	Gray particulate surfaced roof flashing	PLM	Black		NONE DETECTED	Trace% Cellulose 3% FiberGlass 5% Synthetic	22% Mineral Filler 70% Organic Binder
041718-MK-63 *18-3902 -63*	Roof A10	Black roof flashing seam mastic	PLM	Black		NONE DETECTED	3% Cellulose	17% Mineral Filler 80% Organic Binder
041718-MK-64 *18-3902 -64*	Roof A10	Black roof flashing seam mastic	PLM	Black		NONE DETECTED	4% Cellulose	16% Mineral Filler 80% Organic Binder

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BULK ASBESTOS ANALYSIS RESULTS

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Date Received : 4/19/2018 11:40:00 AM
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Precision Batch # 18-3902
Methods: EPA 600/M4/ 82/ 020 ☑
ELAP 198.1 ☐

Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*
041718-MK-65 *18-3902 -65*	Roof A10	Vent pipe mastic	PLM	Black		NONE DETECTED	Trace% Cellulose	10% Mineral Filler 90% Organic Binder
041718-MK-66 *18-3902 -66*	Roof A10	Vent pipe mastic	PLM	Black		NONE DETECTED	Trace% Cellulose	10% Mineral Filler 90% Organic Binder
041718-MK-67 *18-3902 -67*	Roof A10	Pitch pocket tar	PLM	Black		NONE DETECTED	4% Cellulose	16% Mineral Filler 80% Organic Binder
041718-MK-68 *18-3902 -68*	Roof A10	Pitch pocket tar	PLM	Black		NONE DETECTED	5% Cellulose	15% Mineral Filler 80% Organic Binder
041718-MK-69 *18-3902 -69*	Roof A11	Built-up roofing	PLM	Black		NONE DETECTED	6% Cellulose 8% FiberGlass	14% Mineral Filler 72% Organic Binder
041718-MK-70 *18-3902 -70*	Roof A11	Built-up roofing	PLM	Black		NONE DETECTED	8% Cellulose 8% FiberGlass	14% Mineral Filler 70% Organic Binder
041718-MK-71 *18-3902 -71*	Roof A11	Gray particulate surfaced roof flashing	PLM	Black		NONE DETECTED	Trace% Cellulose 8% Synthetic	20% Mineral Filler 72% Organic Binder
041718-MK-72 *18-3902 -72*	Roof A11	Gray particulate surfaced roof flashing	PLM	Black		NONE DETECTED	Trace% Cellulose 10% Synthetic	15% Mineral Filler 75% Organic Binder

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BULK ASBESTOS ANALYSIS RESULTS

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Precision Batch # 18-3902
Methods: EPA 600/M4/ 82/ 020 ☑
ELAP 198.1 ☐

Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*
041718-MK-73 *18-3902 -73*	Roof A11	Black roof flashing seam mastic	PLM	Black		NONE DETECTED	4% Cellulose	16% Mineral Filler 80% Organic Binder
041718-MK-74 *18-3902 -74*	Roof A11	Black roof flashing seam mastic	PLM	Black		NONE DETECTED	4% Cellulose	16% Mineral Filler 80% Organic Binder
041718-MK-75 *18-3902 -75*	Wall between roof A11 and roof A9	Cement fiber freeze panel board	PLM	Offwhite		12% Chrysotile		88% Mineral Filler
041718-MK-76 *18-3902 -76*	Positive stop see #75	Positive stop see #75				NOT ANALYZED		
041718-MK-77 *18-3902 -77*	Wall between roof A3 and roof A4	Cement fiber freeze panel board	PLM	Gray		16% Chrysotile		84% Mineral Filler
041718-MK-78 *18-3902 -78*	Positive stop see #77	Positive stop see #77				NOT ANALYZED		
041718-MK-79 *18-3902 -79*	Wall between roof A11 and roof A9	Caulking at freeze panels	PLM	Tan		NONE DETECTED		30% Mineral Filler 70% Organic Binder
041718-MK-80 *18-3902 -80*	Wall between roof A11 and roof A9	Caulking at freeze panels	PLM	Tan		NONE DETECTED		30% Mineral Filler 70% Organic Binder

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BULK ASBESTOS ANALYSIS RESULTS

Client: New Hanover County Schools
6410 Carolina Beach Rd.
Wilmington , NC 28412

Project: 2900 N. College Road
2900 N. College Road
Wilmington, NC 28405

Location: Entire School and Rooftops

Sampling Date : 4/17/2018
Date Received : 4/19/2018 11:40:00 AM
Date Analyzed : 4/20/2018
Precision Batch # 18-3902
Methods: EPA 600/M4/ 82/ 020 ☑
ELAP 198.1 ☐

Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*
041718-MK-81 *18-3902 -81*	Wall between roof A3 and roof A4	Caulking at freeze panels	PLM	Grey		NONE DETECTED		30% Mineral Filler 70% Organic Binder
041718-MK-82 *18-3902 -82*	Wall between roof A3 and roof A4	Caulking at freeze panels	PLM	Grey		NONE DETECTED		30% Mineral Filler 70% Organic Binder
041718-MK-83 *18-3902 -83*	Kitchen 1992 façade	Cement fiber freeze panel board	PLM	Tan		NONE DETECTED	5% FiberGlass	95% Mineral Filler
041718-MK-84 *18-3902 -84*	Kitchen 1992 façade	Cement fiber freeze panel board	PLM	Tan		NONE DETECTED	5% FiberGlass	95% Mineral Filler
041718-MK-85 *18-3902 -85*	Kitchen 1992 façade	Caulking at freeze panels	PLM	Grey		NONE DETECTED		30% Mineral Filler 70% Organic Binder
041718-MK-86 *18-3902 -86*	Kitchen 1992 façade	Caulking at freeze panels	PLM	Grey		NONE DETECTED		30% Mineral Filler 70% Organic Binder
041718-MK-87 *18-3902 -87*	1989 façade	Cement fiber freeze panel board	PLM	Grey		NONE DETECTED	10% Cellulose	90% Mineral Filler
041718-MK-88 *18-3902 -88*	1989 façade	Cement fiber freeze panel board	PLM	Grey		NONE DETECTED	10% Cellulose	90% Mineral Filler

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Precision Batch # 18-3902
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ELAP 198.1 ☐

Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*
041718-MK-89 *18-3902 -89*	1989 faxcade at underside of freeze panels	Gypsum board soffit	PLM	Grey		NONE DETECTED	10% Cellulose 2% FiberGlass	88% Mineral Filler
041718-MK-90 *18-3902 -90*	1989 façade at underside of freeze panels	Gypsum board soffit	PLM	Grey		NONE DETECTED	5% Cellulose 2% FiberGlass	93% Mineral Filler
041718-MK-91 *18-3902 -91*	Interior classrooms (room C7)	Gypsum board partition wall	PLM	White		NONE DETECTED	3% Cellulose	97% Mineral Filler
041718-MK-92 *18-3902 -92*	Interior classrooms (room C7)	Gypsum board partition wall	PLM	White		NONE DETECTED	5% Cellulose	95% Mineral Filler
041718-MK-93 *18-3902 -93*	Interior classrooms (room C7)	Brown covebase mastic	PLM	Brown		NONE DETECTED		15% Mineral Filler 85% Organic Binder
041718-MK-94 *18-3902 -94*	Interior classrooms (room C7)	Brown covebase mastic	PLM	Brown		NONE DETECTED		15% Mineral Filler 85% Organic Binder
041718-MK-95 *18-3902 -95*	Courtyard facades	Cement fiber freeze panel board	PLM	Grey		10% Chrysotile		90% Mineral Filler
041718-MK-96 *18-3902 -96*	Positive stop see #95	Positive stop see #95				NOT ANALYZED		

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BULK ASBESTOS ANALYSIS RESULTS

Client: New Hanover County Schools
6410 Carolina Beach Rd.
Wilmington , NC 28412

Sampling Date : 4/17/2018
Date Received : 4/19/2018 11:40:00 AM
Date Analyzed : 4/20/2018
Precision Batch # 18-3902
Methods: EPA 600/M4/ 82/ 020 ☑
ELAP 198.1 ☐

Project: 2900 N. College Road
2900 N. College Road
Wilmington, NC 28405

Location: Entire School and Rooftops

Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*

Legend: TRACE = LESS THAN LIMIT OF QUANTITATION (<0.25%); ND = NONE DETECTED
Note 1: For point counts the limit of quantization of 0.25% is based on one asbestos point counted over 400 non-empty points.
Note 2: >1% asbestos by weight is considered an ACM (Asbestos Containing Material).
Note 3: The condition of all samples was acceptable upon receipt.
Note 4: This report must not be used by the client to claim product endorsement by NVLAP or any agency of the US Government;
Note 5: This test report relates only to the items tested.
Note 6: The laboratory is not responsible for samples collected by commercial clients.
Note 7: The laboratory is not responsible for procedures requested by clients that are deviant from the EPA and ELAP protocols.
Note 8: This sample was sent to an outside laboratory for NOB-PLM and NOB-TEM analysis. See outside laboratory's Bulk Asbestos Analysis Result report. PLM is not consistently reliable in detecting asbestos in NOB materials. Quantitative TEM is currently the only method that can be used to determine if NOB material can be considered or treated as NON-ACM.
Note 9: Supplement to test report Batch # _____ Amendment(s) #: _____ Amendment Date(s): _____ By: _____
Note 10: All bulk samples are tested for vermiculite and the amount of vermiculite calculated is reported. If no vermiculite is reported indicates that no vermiculite is detected.
Note 11: At Client's request sample was not analyzed.
The laboratory is not responsible for sample collection. This report may not be reproduced, except in full, without written approval by Precision Environmental Inc. This report may not be used to claim product endorsement by NVLAP or any other agency of the US Government. This report relates only to the samples reported above. Quality control data is available upon request.
The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
Precision Environmental Inc. and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed. This report is accompanied by the PLM Analysis Letter.

Jianhua Zhou/Caidong Shi JZ / CS
Analyzed by:

Michael Parpounas
Approved by: Caidong Shi for

PRECISION ENVIRONMENTAL INC.

3802 Cherry Ave. Wilmington, NC 28403
Tel: 910-763-3445,Fax: 910-763-3415
Email: jguetta@precision-enviro.com

BULK SAMPLE DATA AND CHAIN OF CUSTODY

TURNAROUND TIME
__ 6hr __ 12 hr. x 24hr
__ 48 hr. __ 72 hr. __ other

CLIENT INFORMATION

NAME: New Hanover County Schools	PROJECT NAME: Trask Preliminary Survey
CLIENT ADDRESS: 6410 Carolina Beach Road, Wilmington, NC 28412	P.E. PROJECT #: 5104-18-0008-1A; Number of samples: 96
BUILDING NAME: Trask Middle School	INSPECTOR(S) NAME: Michael Krupa
BUILDING ADDRESS: 2900 N. College Road, Wilmington, NC 28405	SAMPLING AREAS: Entire School and Rooftops; DATE: 04/17/18

SPECIAL INSTRUCTIONS:
Positive stop for each Homogeneous area (HGA) List positive stops on sample analysis forms. Separate all layers prior to analysis and report separately.
Email results to: jguetta@precision-enviro.com and mkrupa@precision-enviro.com

HOMOGENEOUS AREA (HGA)	BULK SAMPLE ID/#:	MATERIAL DESCRIPTION	SYSTEM	SAMPLE LOCATION: FLOOR/SPACE ID #:	SAMPLE LOCATION: SAMPLE COORDINATES	APPROX. QUANTITY	PLM	NOB-PLM	NOB-TEM
1	041718-MK-01	Gypsum roof deck	na	na	Roof A1		X		
1	041718-MK-02	Gypsum roof deck	na	na	Roof A1		X		
2	041718-MK-03	White roof mastic on EPDM roofing and flashing	na	na	Roof A1		X		
2	041718-MK-04	White roof mastic on EPDM roofing and flashing	na	na	Roof A1		X		
3	041718-MK-05	White roof mastic on EPDM roofing and flashing	na	na	Roof A2		X		
3	041718-MK-06	White roof mastic on EPDM roofing and flashing	na	na	Roof A2		X		
4	041718-MK-07	Cap flashing caulking	na	na	Roofs A1 and A2		X		
4	041718-MK-08	Cap flashing caulking	na	na	Roofs A1 and A2		X		
5	041718-MK-09	White roof mastic on EPDM roofing and flashing	na	na	Roof A3		X		
5	041718-MK-10	White roof mastic on EPDM roofing and flashing	na	na	Roof A3		X		
6	041718-MK-11	Metal coping cover caulking	na	na	Roofs A1, A2, A3, A4, A7, A8, A9, A10, A11		X		
6	041718-MK-12	Metal coping cover caulking	na	na	Roofs A1, A2, A3, A4, A7, A8, A9, A10, A11		X		
7	041718-MK-13	Built-up roofing	na	na	Roof A4		X		
7	041718-MK-14	Built-up roofing	na	na	Roof A4		X		
8	041718-MK-15	Gray particulate surfaced roof flashing	na	na	Roof A4		X		
8	041718-MK-16	Gray particulate surfaced roof flashing	na	na	Roof A4		X		
9	041718-MK-17	Black roof flashing seam mastic	na	na	Roof A4		X		
9	041718-MK-18	Black roof flashing seam mastic	na	na	Roof A4		X		

CHAIN OF CUSTODY

RELINQUISHED BY (FULL NAME & SIGNATURE)	RECEIVED BY: (FULL NAME & SIGNATURE)	DATE	TIME	METHOD OF SUBMITTAL
1. Michael Krupa	Xanthe Thorn	04/18/18	2:00 PM	Overnight mail
2.		4/19/18	11:40AM	
3.				

LAB INFORMATION

BATCH #:	ANALYZED BY (FULL NAME)	SIGNATURE:	DATE	TIME	COMMENTS (LAB)
18-3902	Xanthe Thorn		4/20/18	3:00	
	Q.C. BY:				

PRECISION ENVIRONMENTAL INC.
3802 Cherry Ave. Wilmington, NC 28403
Tel: 910-763-3445,Fax: 910-763-3415
Email: jguetta@precision-enviro.com

BULK SAMPLE DATA AND CHAIN OF CUSTODY

TURNAROUND TIME
__ 6hr __ 12 hr. x 24hr
__ 48 hr. __ 72 hr. __ other

CLIENT INFORMATION

NAME: New Hanover County Schools	PROJECT NAME: Trask Preliminary Survey
CLIENT ADDRESS: 6410 Carolina Beach Road, Wilmington, NC 28412	P.E. PROJECT #: 5104-18-0008-1A; Number of samples: 96
BUILDING NAME: Trask Middle School	INSPECTOR(S) NAME: Michael Krupa
BUILDING ADDRESS: 2900 N. College Road, Wilmington, NC 28405	SAMPLING AREAS: Entire School and Rooftops; DATE: 04/17/18

SPECIAL INSTRUCTIONS:
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Email results to: jguetta@precision-enviro.com and mkrupa@precision-enviro.com

HOMOGENEOUS AREA (HGA)	BULK SAMPLE ID/#:	MATERIAL DESCRIPTION	SYSTEM	SAMPLE LOCATION: FLOOR/SPACE ID #:	SAMPLE LOCATION: SAMPLE COORDINATES	APPROX. QUANTITY	PLM	NOB-PLM	NOB-TEM
10	041718-MK-19	Vent pipe mastic	na	na	Roof A4		X		
10	041718-MK-20	Vent pipe mastic	na	na	Roof A4		X		
11	041718-MK-21	Remnant white cap flashing caulking	na	na	Roof A4 at wall to Roof A3		X		
11	041718-MK-22	Remnant white cap flashing caulking	na	na	Roof A4 at wall to Roof A3		X		
12	041718-MK-23	Black mastic on EPDM roofing and flashing	na	na	Roof A5		X		
12	041718-MK-24	Black mastic on EPDM roofing and flashing	na	na	Roof A5		X		
13	041718-MK-25	Metal coping cover caulking	na	na	Roof A5		X		
13	041718-MK-26	Metal coping cover caulking	na	na	Roof A5		X		
14	041718-MK-27	Black mastic on EPDM roofing and flashing	na	na	Roof A6		X		
14	041718-MK-28	Black mastic on EPDM roofing and flashing	na	na	Roof A6		X		
15	041718-MK-29	Cap flashing caulking	na	na	Roof A6		X		
15	041718-MK-30	Cap flashing caulking	na	na	Roof A6		X		
16	041718-MK-31	Built-up roofing	na	na	Roof A7		X		
16	041718-MK-32	Built-up roofing	na	na	Roof A7		X		
17	041718-MK-33	Gray particulate surfaced roof flashing	na	na	Roof A7		X		
17	041718-MK-34	Gray particulate surfaced roof flashing	na	na	Roof A7		X		
18	041718-MK-35	Black roof flashing seam mastic	na	na	Roof A7		X		
18	041718-MK-36	Black roof flashing seam mastic	na	na	Roof A7		X		

CHAIN OF CUSTODY

RELINQUISHED BY (FULL NAME & SIGNATURE)	RECEIVED BY: (FULL NAME & SIGNATURE)	DATE	TIME	METHOD OF SUBMITTAL
1. Michael Krupa		04/18/18	2:00 PM	Overnight mail
2.		4/19/18	11:40A	
3.				

LAB INFORMATION

BATCH #:	ANALYZED BY (FULL NAME)	SIGNATURE:	DATE	TIME	COMMENTS (LAB)
18-3902			4/20/18	3:00p	
	Q.C. BY:				

PRECISION ENVIRONMENTAL INC.

3802 Cherry Ave. Wilmington, NC 28403
Tel: 910-763-3445,Fax: 910-763-3415
Email: jguetta@precision-enviro.com

BULK SAMPLE DATA AND CHAIN OF CUSTODY

TURNAROUND TIME
__ 6hr __ 12 hr. _x_ 24hr
__ 48 hr. __ 72 hr. __ other

CLIENT INFORMATION

NAME: New Hanover County Schools	PROJECT NAME: Trask Preliminary Survey
CLIENT ADDRESS: 6410 Carolina Beach Road, Wilmington, NC 28412	P.E. PROJECT #: 5104-18-0008-1A; Number of samples: 96
BUILDING NAME: Trask Middle School	INSPECTOR(S) NAME: Michael Krupa
BUILDING ADDRESS: 2900 N. College Road, Wilmington, NC 28405	SAMPLING AREAS: Entire School and Rooftops; DATE: 04/17/18

SPECIAL INSTRUCTIONS:
Positive stop for each Homogeneous area (HGA) List positive stops on sample analysis forms. Separate all layers prior to analysis and report separately.
Email results to: jguetta@precision-enviro.com and mkrupa@precision-enviro.com

HOMOGENEOUS AREA (HGA)	BULK SAMPLE ID/#:	MATERIAL DESCRIPTION	SAMPLE LOCATION: SYSTEM	SAMPLE LOCATION: FLOOR/SPACE ID #:	SAMPLE LOCATION: SAMPLE COORDINATES	APPROX. QUANTITY	PLM	NOB-PLM	NOB-TEM
19	041718-MK-37	Vent pipe mastic	na	na	Roof A7		X		
19	041718-MK-38	Vent pipe mastic	na	na	Roof A7		X		
20	041718-MK-39	Built-up roofing	na	na	Roof A8		X		
20	041718-MK-40	Built-up roofing	na	na	Roof A8		X		
21	041718-MK-41	Gypsum roof deck	na	na	Roof A8		X		
21	041718-MK-42	Gypsum roof deck	na	na	Roof A8		X		
22	041718-MK-43	Gray particulate surfaced roof flashing	na	na	Roof A8		X		
22	041718-MK-44	Gray particulate surfaced roof flashing	na	na	Roof A8		X		
23	041718-MK-45	Black roof flashing seam mastic	na	na	Roof A8		X		
23	041718-MK-46	Black roof flashing seam mastic	na	na	Roof A8		X		
24	041718-MK-47	Vent pipe mastic	na	na	Roof A8		X		
24	041718-MK-48	Vent pipe mastic	na	na	Roof A8		X		
25	041718-MK-49	Pitch pocket tar	na	na	Roof A8		X		
25	041718-MK-50	Pitch pocket tar	na	na	Roof A8		X		
26	041718-MK-51	Built-up roofing	na	na	Roof A9		X		
26	041718-MK-52	Built-up roofing	na	na	Roof A9		X		
27	041718-MK-53	Gray particulate surfaced roof flashing	na	na	Roof A9		X		
27	041718-MK-54	Gray particulate surfaced roof flashing	na	na	Roof A9		X		

CHAIN OF CUSTODY

RELINQUISHED BY (FULL NAME & SIGNATURE)	RECEIVED BY: (FULL NAME & SIGNATURE)	DATE	TIME	METHOD OF SUBMITTAL
1. Michael Krupa		04/18/18	2:00 PM	Overnight mail
2.		4/19/18	11:40/A	
3.				

LAB INFORMATION

BATCH #:	ANALYZED BY (FULL NAME)	SIGNATURE:	DATE	TIME	COMMENTS (LAB)
18-3902			4/19/18	3:00p	
	Q.C. BY:				

PRECISION ENVIRONMENTAL INC.

BULK SAMPLE DATA AND CHAIN OF CUSTODY

TURNAROUND TIME

___ 6hr ___ 12 hr. _x_ 24hr

___ 48 hr. ___ 72 hr. ___ other

3802 Cherry Ave. Wilmington, NC 28403
Tel: 910-763-3445,Fax: 910-763-3415
Email: jguetta@precision-enviro.com

CLIENT INFORMATION

NAME: New Hanover County Schools	PROJECT NAME: Trask Preliminary Survey
CLIENT ADDRESS: 6410 Carolina Beach Road, Wilmington, NC 28412	P.E. PROJECT #: 5104-18-0008-1A; Number of samples: 96
BUILDING NAME: Trask Middle School	INSPECTOR(S) NAME: Michael Krupa
BUILDING ADDRESS: 2900 N. College Road, Wilmington, NC 28405	SAMPLING AREAS: Entire School and Rooftops; DATE: 04/17/18

SPECIAL INSTRUCTIONS:
Positive stop for each Homogeneous area (HGA) List positive stops on sample analysis forms. Separate all layers prior to analysis and report separately.
Email results to: jguetta@precision-enviro.com and mkrupa@precision-enviro.com

HOMOGENEOUS AREA (HGA)	BULK SAMPLE ID/#:	MATERIAL DESCRIPTION	SAMPLE LOCATION: SYSTEM	SAMPLE LOCATION: FLOOR/SPACE ID #:	SAMPLE LOCATION: SAMPLE COORDINATES	APPROX. QUANTITY	PLM	NOB-PLM	NOB-TEM
28	041718-MK-55	Black roof flashing seam mastic	na	na	Roof A9		X		
28	041718-MK-56	Black roof flashing seam mastic	na	na	Roof A9		X		
29	041718-MK-57	Vent pipe mastic	na	na	Roof A9		X		
29	041718-MK-58	Vent pipe mastic	na	na	Roof A9		X		
30	041718-MK-59	Built-up roofing	na	na	Roof A10		X		
30	041718-MK-60	Built-up roofing	na	na	Roof A10		X		
31	041718-MK-61	Gray particulate surfaced roof flashing	na	na	Roof A10		X		
31	041718-MK-62	Gray particulate surfaced roof flashing	na	na	Roof A10		X		
32	041718-MK-63	Black roof flashing seam mastic	na	na	Roof A10		X		
32	041718-MK-64	Black roof flashing seam mastic	na	na	Roof A10		X		
33	041718-MK-65	Vent pipe mastic	na	na	Roof A10		X		
33	041718-MK-66	Vent pipe mastic	na	na	Roof A10		X		
34	041718-MK-67	Pitch pocket tar	na	na	Roof A10		X		
34	041718-MK-68	Pitch pocket tar	na	na	Roof A10		X		
35	041718-MK-69	Built-up roofing	na	na	Roof A11		X		
35	041718-MK-70	Built-up roofing	na	na	Roof A11		X		
36	041718-MK-71	Gray particulate surfaced roof flashing	na	na	Roof A11		X		
36	041718-MK-72	Gray particulate surfaced roof flashing	na	na	Roof A11		X		

CHAIN OF CUSTODY

RELINQUISHED BY (FULL NAME & SIGNATURE)	RECEIVED BY: (FULL NAME & SIGNATURE)	DATE	TIME	METHOD OF SUBMITTAL
1. Michael Krupa		04/18/18	2:00 PM	Overnight mail
2.		4/19/18	11:40AM	
3.				

LAB INFORMATION

BATCH #:	ANALYZED BY (FULL NAME)	SIGNATURE:	DATE	TIME	COMMENTS (LAB)
187902			4/20/18	3:12pm	
	Q.C. BY:				

PRECISION ENVIRONMENTAL INC.
3802 Cherry Ave. Wilmington, NC 28403
Tel: 910-763-3445,Fax: 910-763-3415
Email: jguetta@precision-enviro.com

BULK SAMPLE DATA AND CHAIN OF CUSTODY

TURNAROUND TIME
__ 6hr __ 12 hr. _x_ 24hr
__ 48 hr. __ 72 hr. __ other

CLIENT INFORMATION

NAME: New Hanover County Schools	PROJECT NAME: Trask Preliminary Survey
CLIENT ADDRESS: 6410 Carolina Beach Road, Wilmington, NC 28412	P.E. PROJECT #: 5104-18-0008-1A; Number of samples: 96
BUILDING NAME: Trask Middle School	INSPECTOR(S) NAME: Michael Krupa
BUILDING ADDRESS: 2900 N. College Road, Wilmington, NC 28405	SAMPLING AREAS: Entire School and Rooftops; DATE: 04/17/18

SPECIAL INSTRUCTIONS:
Positive stop for each Homogeneous area (HGA) List positive stops on sample analysis forms. Separate all layers prior to analysis and report separately.
Email results to: jguetta@precision-enviro.com and mkrupa@precision-enviro.com

HOMOGENEOUS AREA (HGA)	BULK SAMPLE ID/#:	MATERIAL DESCRIPTION	SYSTEM	SAMPLE LOCATION: FLOOR/SPACE ID #:	SAMPLE LOCATION: SAMPLE COORDINATES	APPROX. QUANTITY	PLM	NOB-PLM	NOB-TEM
37	041718-MK-73	Black roof flashing seam mastic	na	na	Roof A11		X		
37	041718-MK-74	Black roof flashing seam mastic	na	na	Roof A11		X		
38	041718-MK-75	Cement fiber freeze panel board	na	na	Wall between Roof A11 and Roof A9		X		
38	041718-MK-76	Cement fiber freeze panel board	na	na	Wall between Roof A11 and Roof A9		X		
39	041718-MK-77	Cement fiber freeze panel board	na	na	Wall between Roof A3 and Roof A4		X		
39	041718-MK-78	Cement fiber freeze panel board	na	na	Wall between Roof A3 and Roof A4		X		
40	041718-MK-79	Caulking at freeze panels	na	na	Wall between Roof A11 and Roof A9		X		
40	041718-MK-80	Caulking at freeze panels	na	na	Wall between Roof A11 and Roof A9		X		
41	041718-MK-81	Caulking at freeze panels	na	na	Wall between Roof A3 and Roof A4		X		
41	041718-MK-82	Caulking at freeze panels	na	na	Wall between Roof A3 and Roof A4		X		
42	041718-MK-83	Cement fiber freeze panel board	na	na	Kitchen 1992 façade		X		
42	041718-MK-84	Cement fiber freeze panel board	na	na	Kitchen 1992 façade		X		
43	041718-MK-85	Caulking at freeze panels	na	na	Kitchen 1992 façade		X		
43	041718-MK-86	Caulking at freeze panels	na	na	Kitchen 1992 façade		X		
44	041718-MK-87	Cement fiber freeze panel board	na	na	1989 façade		X		
44	041718-MK-88	Cement fiber freeze panel board	na	na	1989 façade		X		
45	041718-MK-89	Gypsum board soffit	na	na	1989 façade at underside of freeze panels		X		
45	041718-MK-90	Gypsum board soffit	na	na	1989 façade at underside of freeze panels		X		

CHAIN OF CUSTODY

RELINQUISHED BY (FULL NAME & SIGNATURE)	RECEIVED BY: (FULL NAME & SIGNATURE)	DATE	TIME	METHOD OF SUBMITTAL
1. Michael Krupa		04/18/18	2:00 PM	Overnight mail
2.		4/19/18	11:40AM	
3.				

LAB INFORMATION

BATCH #:	ANALYZED BY (FULL NAME)	SIGNATURE:	DATE	TIME	COMMENTS (LAB)
18-2902	Q.C. BY:	CS	4/20/18	3:00pm	

PRECISION ENVIRONMENTAL INC.

3802 Cherry Ave. Wilmington, NC 28403
Tel: 910-763-3445,Fax: 910-763-3415
Email: jguetta@precision-enviro.com

BULK SAMPLE DATA AND CHAIN OF CUSTODY

TURNAROUND TIME
__ 6hr __ 12 hr. _x_ 24hr
__ 48 hr. __ 72 hr. __ other

CLIENT INFORMATION

NAME: New Hanover County Schools	PROJECT NAME: Trask Preliminary Survey
CLIENT ADDRESS: 6410 Carolina Beach Road, Wilmington, NC 28412	P.E. PROJECT #: 5104-18-0008-1A / Number of samples: 96
BUILDING NAME: Trask Middle School	INSPECTOR(S) NAME: Michael Krupa
BUILDING ADDRESS: 2900 N. College Road, Wilmington, NC 28405	SAMPLING AREAS: Entire School and Rooftops / DATE: 04/17/18

SPECIAL INSTRUCTIONS:
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HOMOGENEOUS AREA (HGA)	BULK SAMPLE ID/#:	MATERIAL DESCRIPTION	SAMPLE LOCATION: SYSTEM	SAMPLE LOCATION: FLOOR/SPACE ID #:	SAMPLE LOCATION: SAMPLE COORDINATES	APPROX. QUANTITY	PLM	NOB-PLM	NOB-TEM
46	041718-MK-91	Gypsum board partition wall	na	na	Interior Classrooms (Room C7)		X		
46	041718-MK-92	Gypsum board partition wall	na	na	Interior Classrooms (Room C7)		X		
47	041718-MK-93	Brown covebase mastic	na	na	Interior Classrooms (Room C7)		X		
47	041718-MK-94	Brown covebase mastic	na	na	Interior Classrooms (Room C7)		X		
48	041718-MK-95	Cement fiber freeze panel board	na	na	Courtyard facades		X		
48	041718-MK-96	Cement fiber freeze panel board	na	na	Courtyard facades		X		

CHAIN OF CUSTODY

RELINQUISHED BY (FULL NAME & SIGNATURE)	RECEIVED BY: (FULL NAME & SIGNATURE)	DATE	TIME	METHOD OF SUBMITTAL
1. Michael Krupa		04/18/18	2:00 PM	Overnight mail
2.		4/19/18	11:40AM	
3.				

LAB INFORMATION

BATCH #:	ANALYZED BY (FULL NAME)	SIGNATURE:	DATE	TIME	COMMENTS (LAB)
187902	Caidong Shi	CS	4/20/18		
	Q.C. BY:				

NVLAP® National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Precision Environmental Inc.
36-15A 23rd Street
Long Island City, NY 11106
Mr. Michael Parpounas
Phone: 718-383-2626 Fax: 718-383-7780
Email: lab@precision-enviro.com
http://www.precision-enviro.com

ASBESTOS FIBER ANALYSIS — NVLAP LAB CODE 200640-0

Bulk Asbestos Analysis

Code	*Description*
18/A01	EPA 600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples

For the National Voluntary Laboratory Accreditation Program

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200640-0

Precision Environmental Inc.

Long Island City, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2016-07-01 through 2017-06-30

Effective Dates

For the National Voluntary Laboratory Accreditation Program

North Carolina Department of Health and Human Services

Division of Public Health

Roy Cooper
Governor

Mandy Cohen, MD, MPH
Secretary

Daniel Stanley
Director

August 14, 2017

Michael J Krupa
3031 Country Club Dr
Hampstead, NC 28443

Dear Mr. Krupa:

Based upon the review of your accreditation application, the Health Hazards Control Unit (HHCU) has determined that you have fulfilled the requirements and are eligible for asbestos accreditation as a(n) INSPECTOR. Your assigned North Carolina accreditation number is 12880, which is reflected on your enclosed North Carolina Accreditation card. Please be sure to take this card with you to any asbestos work site where you are employed. The State requires that all persons conducting asbestos abatement or asbestos management activities be accredited and have their identification card on site.

Your North Carolina Inspector accreditation will expire on MAY 31, 2018. It is NOT the policy of the HHCU to issue renewal notices. If you wish to continue working as a(n) Inspector after this expiration date, you must successfully complete the required training and submit a completed application to this office prior to May 31, 2018. If you should continue to perform asbestos management activities as a(n) Inspector without a valid North Carolina accreditation, you will be in violation of State regulations and may be cited for noncompliance.

Sincerely,

Ed Norman
Program Manager
Health Hazards Control Unit

Enclosure

Location: 5505 Six Forks Road, Raleigh, NC 27609 | Mailing Address: 1912 Mail Service Center, Raleigh, NC 27699-1912
919-707-5950 T | 919-870-4808 F
An Equal Opportunity / Affirmative Action Employer

PRECISION ENVIRONMENTAL INC.

3802 Cherry Ave. Wilmington, NC 28403
Tel: 910-763-3445 Fax: 910-763-3415
www.precision-enviro.com

July 27, 2018

New Hanover County Schools
Attn: Kimberly Gordon
6410 Carolina Beach Rd.
Wilmington, NC 28412

Re: Ceiling Tile Clarification Survey at:
Trask Middle School
2900 N College Rd., Wilmington, NC 28405
PEI Project No.: 5104-18-0013-1A

On July 24, 2018, Jonathan Guetta (NC Asbestos Building Inspector Accreditation No. 11936) of Precision Environmental, Inc. (Precision) conducted a limited asbestos survey of the above referenced building. At the client's request, sampling was limited to ceiling tiles within the facility.

The purpose of the survey was to verify the presence or absence of asbestos-containing materials (ACM) associated with the ceiling tiles prior to removal of the tiles.

Samples of ceiling tile were collected from each section of the school based on the year of construction.

Prior to sample collection, a visual inspection was conducted in order to determine homogeneous materials/areas and sample locations. Asbestos-containing materials are defined as materials that contain greater than 1% asbestos via Polarized Light Microscopy (PLM). Homogeneous Areas (HGA) are determined by the material's color and texture. Asbestos-containing materials are defined by the following descriptions: surfacing material (SM), thermal system insulation (TSI) and miscellaneous materials (M). Both friable and non-friable materials were included in the inspection. Friable materials are defined as those that can be pulverized by hand pressure.

Bulk sampling of suspect ACM was conducted in accordance with the sampling requirements promulgated by the United States Environmental Protection Agency's "Asbestos-Containing Materials in Schools Rule" (40 CFR 763, Subpart E), commonly referred to as the "Asbestos Hazard Emergency Response Act" or AHERA regulations. Specific compliance to these requirements include, but are not limited to, the type and number of samples to be collected. Sample locations were selected at random.

As a result, a total of fifteen (15) bulk samples were collected from five (5) suspect asbestos-containing materials. A listing of identified suspect ACM materials and the number of samples collected from each homogeneous area (HGA) is provided in Table 1 below:

Table 1: Identified Suspect Asbestos Materials

Suspect Material (HGA)	Description	Friable/Non-friable	Sample Location	No. of Samples Collected
1. 2 x 2 Ceiling tile	M	F	Outside room M16, outside room M2, outside room 24	3
2. 2 x 2 Ceiling tile	M	F	Outside cafeteria, outside room A15, outside room A8	3
3. 2 x 2 Ceiling tile	M	F	Room C4, room C12, room C6	3
4. 2 x 2 Ceiling tile	M	F	Janitor's closet across from room C12, room C25, room C22	3
5. 2 x 2 Ceiling tile	M	F	Room 07, room 02, room 01	3

SM=Surfacing material/TSI=Thermal system insulation/M= Miscellaneous material/F=Friable/NF=Non-friable

Collected samples were given a unique identification number, which included the date, building number (2900) and sample number, logged onto a chain of custody form and shipped to an accredited laboratory for analysis. All samples were analyzed by Polarized Light Microscopy (PLM) via EPA method 600/M4/82/020. Multi layered samples were separated prior to analysis and analyzed separately per EPA protocol. In an effort to reduce cost, Precision instructed the laboratory to STOP analysis at the first positive sample for each suspect material HGA and not to analyze the remaining samples from the same HGA. As a result, a total of fifteen (15) samples were analyzed.

Results

Laboratory analysis of the bulk samples collected revealed that *none* of the suspect materials sampled contain greater than 1% asbestos via PLM analysis and may be treated as non-asbestos containing materials.

Listing of identified NON-ACM materials is provided in Table 2 below:

Table 2: Identified NON-ACM Materials

Material	Description	Friable/ Non-friable	Location	Laboratory Result	Approx. Quantity
1. 2 x 2 Ceiling tile	M	F	Outside room M16, outside room M2, outside room 24	None detected	NA
2. 2 x 2 Ceiling tile	M	F	Outside cafeteria, outside room A15, outside room A8	None detected	NA
3. 2 x 2 Ceiling tile	M	F	Room C4, room C12, room C6	None detected	NA
4. 2 x 2 Ceiling tile	M	F	Janitor's closet across from room C12, room C25, room C22	None detected	NA
5. 2 x 2 Ceiling tile	M	F	Room 07, room 02, room 01	None detected	NA

SF = Square Feet N/A = Not Applicable

If additional materials not addressed during this inspection are to be disturbed, Precision strongly recommends that those materials either be assumed to be asbestos-containing, or that bulk samples be collected to determine the materials asbestos content prior to their disturbance.

All bulk samples analytical results as well sample locations are outlined in detail on the attached "BULK SAMPLE DATA AND CHAIN OF CUSTODY" form and laboratory's "BULK ASBESTOS ANALYSIS RESULTS" form.

Attached please find the following:

- Bulk Asbestos Analysis Sheet
- Bulk Sample Data and Chain of Custody Form
- Laboratory and Personnel Certificates

If you have any questions or require additional information, please do not hesitate to contact me at (910) 763-3445.

Sincerely,
Precision Environmental, Inc.

Jonathan Guetta
NC Asbestos Inspector Accreditation #11936

cc: Irene Sotiriou

PRECISION ENVIRONMENTAL INC.
36-15A 23rd Street, LIC, NY 11106
Tel: 718.383.2626, Fax: 718.383.7780
Accredited by NVLAP #200640-0, NY State ELAP #11764

BULK ASBESTOS ANALYSIS RESULTS

Client: New Hanover County Schools
6410 Carolina Beach Rd.
Wilmington , NC 28412

Project: 2900 N. College Road
2900 N. College Road
Wilmington, NC 28405

Location: Interior ceiling tile - throughout

Sampling Date : 7/24/2018
Date Received : 7/26/2018 12:10:00 PM
Date Analyzed : 7/26/2018
Precision Batch # 18-3965
Methods: EPA 600/M4/ 82/ 020 ☑
ELAP 198.1 ☐

Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*
072418-2900-1 *18-3965 -1*	Outside room M16	2 x 2 ceiling tile	PLM	Beige		NONE DETECTED	70% Cellulose 2% FiberGlass	28% Mineral Filler
072418-2900-2 *18-3965 -2*	Outside room M2	2 x 2 ceiling tile	PLM	Beige		NONE DETECTED	75% Cellulose 2% FiberGlass	23% Mineral Filler
072418-2900-3 *18-3965 -3*	Outside room 24	2 x 2 ceiling tile	PLM	Beige		NONE DETECTED	70% Cellulose 3% FiberGlass	27% Mineral Filler
072418-2900-4 *18-3965 -4*	Outside cafeteria	2 x 2 ceiling tile	PLM	Beige		NONE DETECTED	68% Cellulose 3% FiberGlass	29% Mineral Filler
072418-2900-5 *18-3965 -5*	Outside room A15	2 x 2 ceiling tile	PLM	Beige		NONE DETECTED	70% Cellulose 3% FiberGlass	27% Mineral Filler
072418-2900-6 *18-3965 -6*	Outside room A8	2 x 2 ceiling tile	PLM	Beige		NONE DETECTED	70% Cellulose 2% FiberGlass	28% Mineral Filler
072418-2900-7 *18-3965 -7*	Room C4	2 x 2 ceiling tile	PLM	Beige		NONE DETECTED	70% Cellulose 5% FiberGlass	25% Mineral Filler
072418-2900-8 *18-3965 -8*	Room C12	2 x 2 ceiling tile	PLM	Beige		NONE DETECTED	68% Cellulose 5% FiberGlass	27% Mineral Filler

PRECISION ENVIRONMENTAL INC.
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Accredited by NVLAP #200640-0, NY State ELAP #11764

BULK ASBESTOS ANALYSIS RESULTS

Client: New Hanover County Schools
6410 Carolina Beach Rd.
Wilmington , NC 28412

Project: 2900 N. College Road
2900 N. College Road
Wilmington, NC 28405

Location: Interior ceiling tile - throughout

Sampling Date : 7/24/2018
Date Received : 7/26/2018 12:10:00 PM
Date Analyzed : 7/26/2018
Precision Batch # 18-3965
Methods: EPA 600/M4/ 82/ 020 ☑
ELAP 198.1 ☐

Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*
072418-2900-9 *18-3965 -9*	Room C6	2 x 2 ceiling tile	PLM	Beige		NONE DETECTED	68% Cellulose 5% FiberGlass	27% Mineral Filler
072418-2900-10 *18-3965 -10*	Janitor's closet across from room C12	2 x 2 ceiling tile	PLM	Beige		NONE DETECTED	80% Cellulose Trace% FiberGlass	20% Mineral Filler
072418-2900-11 *18-3965 -11*	Room C25	2 x 2 ceiling tile	PLM	Beige		NONE DETECTED	78% Cellulose Trace% FiberGlass	22% Mineral Filler
072418-2900-12 *18-3965 -12*	Room C22	2 x 2 ceiling tile	PLM	Beige		NONE DETECTED	78% Cellulose 3% FiberGlass	19% Mineral Filler
072418-2900-13 *18-3965 -13*	Room 07	2 x 2 ceiling tile	PLM	Beige		NONE DETECTED	76% Cellulose 3% FiberGlass	21% Mineral Filler
072418-2900-14 *18-3965 -14*	Room 02	2 x 2 ceiling tile	PLM	Beige		NONE DETECTED	75% Cellulose 3% FiberGlass	22% Mineral Filler
072418-2900-15 *18-3965 -15*	Room 01	2 x 2 ceiling tile	PLM	Beige		NONE DETECTED	74% Cellulose 3% FiberGlass	23% Mineral Filler

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BULK ASBESTOS ANALYSIS RESULTS

Client: New Hanover County Schools
6410 Carolina Beach Rd.
Wilmington , NC 28412

Project: 2900 N. College Road
2900 N. College Road
Wilmington, NC 28405

Location: Interior ceiling tile - throughout

Sampling Date : 7/24/2018
Date Received : 7/26/2018 12:10:00 PM
Date Analyzed : 7/26/2018
Precision Batch # 18-3965
Methods: EPA 600/M4/ 82/ 020 ☑
ELAP 198.1 ☐

Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*

Legend: TRACE = LESS THAN LIMIT OF QUANTITATION (<0.25%); ND = NONE DETECTED
Note 1: For point counts the limit of quantization of 0.25% is based on one asbestos point counted over 400 non-empty points.
Note 2: >1% asbestos by weight is considered an ACM (Asbestos Containing Material).
Note 3: The condition of all samples was acceptable upon receipt.
Note 4: This report must not be used by the client to claim product endorsement by NVLAP or any agency of the US Government;
Note 5: This test report relates only to the items tested.
Note 6: The laboratory is not responsible for samples collected by commercial clients.
Note 7: The laboratory is not responsible for procedures requested by clients that are deviant from the EPA and ELAP protocols.
Note 8: This sample was sent to an outside laboratory for NOB-PLM and NOB-TEM analysis. See outside laboratory's Bulk Asbestos Analysis Result report. PLM is not consistently reliable in detecting asbestos in NOB materials. Quantitative TEM is currently the only method that can be used to determine if NOB material can be considered or treated as NON-ACM.
Note 9: Supplement to test report Batch # _____ Amendment(s) #: _____ Amendment Date(s): _____ By: _____
Note 10: All bulk samples are tested for vermiculite and the amount of vermiculite calculated is reported. If no vermiculite is reported indicates that no vermiculite is detected.
Note 11: At Client's request sample was not analyzed.
The laboratory is not responsible for sample collection. This report may not be reproduced, except in full, without written approval by Precision Environmental Inc. This report may not be used to claim product endorsement by NVLAP or any other agency of the US Government. This report relates only to the samples reported above. Quality control data is available upon request.
The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above. Precision Environmental Inc. and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed. This report is accompanied by the PLM Analysis Letter.

Jianhua Zhou
Analyzed by:

Michael Parpounas
Approved by: Caidong Shi for

PRECISION ENVIRONMENTAL INC.
3802 Cherry Ave. Wilmington, NC 28403
Tel: 910-763-3445,Fax: 910-763-3415
Email: jguetta@precision-enviro.com

BULK SAMPLE DATA AND CHAIN OF CUSTODY

TURNAROUND TIME
___ 6hr. ___ 12 hr. _x_ 24hr.
___ 48 hr. ___ 72 hr. ___ other

CLIENT INFORMATION

NAME: New Hanover County Schools	PROJECT NAME: Trask Middle School - Ceiling Tile Clarification
CLIENT PROJECT #: NA	P.E. PROJECT #: 5104-18-0013-1A / Number of samples: 15
BUILDING NAME: Trask Middle School	INSPECTOR(S) NAME: Jonathan Guetta
BUILDING ADDRESS: 2900 North College Road Wilmington, NC 28405	SAMPLING AREAS: Interior Ceiling Tile - Throughout / DATE: 07/24/18

SPECIAL INSTRUCTIONS:
Positive stop for each Homogeneous area (HGA) List positive stops on sample analysis forms. Separate all layers prior to analysis and report separately. If analysis of joint compound reveals greater than 1% asbestos, composite wallboard and joint compound samples and re-analyze . Email results to: jguetta@precision-enviro.com

HOMOGENEOUS AREA (HGA)	BULK SAMPLE ID/#:	MATERIAL DESCRIPTION	SAMPLE LOCATION: SYSTEM	SAMPLE LOCATION: FLOOR/SPACE ID #:	SAMPLE LOCATION: SAMPLE COORDINATES	QUANTITY	PLM	NOB-PLM	NOB-TEM
1	072418-2900-01	2x2 Ceiling tile	na	na	Outside room M16		x		
1	072418-2900-02	2x2 Ceiling tile	na	na	Outside room M2		x		
1	072418-2900-03	2x2 Ceiling tile	na	na	Outside room 24		x		
2	072418-2900-04	2x2 Ceiling tile	na	na	Outside cafeteria		x		
2	072418-2900-05	2x2 Ceiling tile	na	na	Outside room A15		x		
2	072418-2900-06	2x2 Ceiling tile	na	na	Outside room A8		x		
3	072418-2900-07	2x2 Ceiling tile	na	na	Room C4		x		
3	072418-2900-08	2x2 Ceiling tile	na	na	Room C12		x		
3	072418-2900-09	2x2 Ceiling tile	na	na	Room C6		x		
4	072418-2900-10	2x2 Ceiling tile	na	na	Janitor's Closet across from room C12		x		
4	072418-2900-11	2x2 Ceiling tile	na	na	Room C25		x		
4	072418-2900-12	2x2 Ceiling tile	na	na	Room C22		x		
5	072418-2900-13	2x2 Ceiling tile	na	na	Room 07		x		
5	072418-2900-14	2x2 Ceiling tile	na	na	Room 02		x		
5	072418-2900-15	2x2 Ceiling tile	na	na	Room 01		x		

RELINQUISHED BY (FULL NAME & SIGNATURE)	RECEIVED BY: (FULL NAME & SIGNATURE)	DATE	TIME	METHOD OF SUBMITTAL
1. Jonathan Guetta	Xanthia Thomas	07/25/18		Overnight mail
2.		7/26/18	12:10pm	
3.				

LAB INFORMATION

BATCH #:	ANALYZED BY (FULL NAME)	SIGNATURE:	DATE	TIME	COMMENTS (LAB)
183985	Xanthia Thomas		7/26/18	2:45pm	
	Q.C. BY:				

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200640-0

Precision Environmental Inc.

Long Island City, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2018-07-01 through 2019-06-30

Effective Dates

DEPARTMENT OF COMMERCE * UNITED STATES OF AMERICA *

For the National Voluntary Laboratory Accreditation Program

National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Precision Environmental Inc.
36-15A 23rd Street
Long Island City, NY 11106
Mr. Michael Parpounas
Phone: 718-383-2626 Fax: 718-383-7780
Email: lab@precision-enviro.com
http://www.precision-enviro.com

ASBESTOS FIBER ANALYSIS — NVLAP LAB CODE 200640-0

Bulk Asbestos Analysis

Code	*Description*
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples

For the National Voluntary Laboratory Accreditation Program

North Carolina Department of Health and Human Services

Division of Public Health

Roy Cooper
Governor

Mandy Cohen, MD, MPH
Secretary

Daniel Stanley
Director

April 4, 2018

Jonathan A Guetta
161 Arlington Dr
Wilmington, NC 28401

Dear Mr. Guetta:

Based upon the review of your accreditation application, the Health Hazards Control Unit (HHCU) has determined that you have fulfilled the requirements and are eligible for asbestos accreditation as a(n) INSPECTOR. Your assigned North Carolina accreditation number is 11936, which is reflected on your enclosed North Carolina Accreditation card. Please be sure to take this card with you to any asbestos work site where you are employed. The State requires that all persons conducting asbestos abatement or asbestos management activities be accredited and have their identification card on site.

Your North Carolina Inspector accreditation will expire on MARCH 31, 2019. It is NOT the policy of the HHCU to issue renewal notices. If you wish to continue working as a(n) Inspector after this expiration date, you must successfully complete the required training and submit a completed application to this office prior to March 31, 2019. If you should continue to perform asbestos management activities as a(n) Inspector without a valid North Carolina accreditation, you will be in violation of State regulations and may be cited for noncompliance.

Sincerely,

Ed Norman
Program Manager
Health Hazards Control Unit

Enclosure

Location: 5505 Six Forks Road, Raleigh, NC 27609 | Mailing Address: 1912 Mail Service Center, Raleigh, NC 27699-1912
919-707-5950 T | 919-870-4808 F
An Equal Opportunity / Affirmative Action Employer

PRECISION ENVIRONMENTAL INC.

3802 Cherry Ave., Wilmington, NC 28403
Tel: 910-763-3445 Fax: 910-763-3415
www.precision-enviro.com

September 26, 2018

New Hanover County Schools
Attn: Kim Gordon
6410 Carolina Beach Road
Wilmington, NC 28412

Re: Limited Asbestos Survey Results at:
Trask Middle School
Media Center Cement Wall Material
2900 N. College Rd. Wilmington, NC 28405
Precision Project No.: 5104-18-0018-1A

On September 21, 2018, Jonathan Guetta (NC Asbestos Building Inspector Accreditation Nos. 11936) of Precision Environmental, Inc. (Precision) conducted a limited asbestos material survey of cement board material located within the media center of Trask Middle School. The material was exposed following the removal of internal wallboard material within the facility.

The purpose of the survey was to verify the presence or absence of asbestos containing materials (ACM) associated with the area prior to disturbance of the material.

Prior to sample collection, a visual inspection was conducted in order to determine homogeneous materials/areas and sample locations. Asbestos containing materials are defined as materials that contain greater than 1% asbestos via Polarized Light Microscopy (PLM). Homogeneous Areas (HGA) are determined by the material's color and texture. Asbestos containing materials are defined by the following descriptions: surfacing material (SM), thermal system insulation (TSI) and miscellaneous materials (M). Both friable and non-friable materials were included in the inspection. Friable materials are defined as those that can be pulverized by hand pressure.

Sample locations were selected at random.

As a result, a total of two (2) bulk samples were collected from a single suspect asbestos-containing material. A listing of identified suspect ACM materials and the number of samples collected from each homogeneous area (HGA) is provided in Table 1 below:

Table 1: Identified Asbestos Suspect Materials

Suspect material (HGA)	Description	Friable/Non-friable	Sample Location	No. of Samples Collected
1. Cement wallboard material	M	NF	Media center. Courtyard wall	2

SM: Surfacing material TSI: Thermal System Insulation M: Miscellaneous material
F: Friable NF: Non-Friable

Collected samples were given a unique identification number, which included the date, facility acronym (TMS) and sample number, logged onto a chain of custody form and shipped to an accredited laboratory for analysis. All samples were analyzed by Polarized Light Microscopy (PLM) via EPA method 600/M4/82/020. Multi layered samples were separated prior to analysis and analyzed separately per EPA protocol. In an effort to reduce cost, Precision instructed the laboratory to STOP analysis at the first positive sample for each suspect material HGA and not to analyze the remaining samples from the same HGA. As a result, a total of one sample was analyzed.

Results

Laboratory analysis of bulk samples collected revealed that the suspect material contains asbestos in quantities greater than 1% and is considered to be asbestos containing material. Listing of identified ACM materials is provided in Table 2 below:

Table 2: Identified ACM Materials

Material	Description	Friable/ Non-friable	Location	Laboratory Result	Approx. Quantity
1. Cement wallboard material	M	NF	Media center. Courtyard wall	6.3% Chrysotile asbestos	Not quantified

SF = Square Feet N/A = Not Applicable

Based on the sample analysis, the following materials should be considered to be Asbestos-Containing Materials:

- Cement wallboard material located behind interior wallboard at the exterior perimeter wall of the media center.

Note: The material can also be accessed by the removal of the wood T1-11 exterior wall material in the courtyard.

Asbestos-containing materials are a regulated material and must be handled accordingly. If the materials are to be disturbed/removed, the materials must be removed in accordance with all applicable Federal, State and Local regulations. In addition, the materials must be disposed of asbestos-containing waste and may not be disposed of as construction debris.

All efforts were made to discover/sample all suspect asbestos containing materials. If additional materials not addressed during this inspection are to be disturbed, Precision strongly recommends that those materials either be assumed to be asbestos containing, or that bulk samples be collected to determine the materials asbestos content prior to their disturbance.

All bulk sample analytical results as well sample locations are outlined in detail on the attached "BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM" form and laboratory's "BULK ASBESTOS ANALYSIS RESULTS" form.

Attached please find the following:

- Bulk Asbestos Analysis Sheet
- Bulk Sample Data And Chain Of Custody Form
- Laboratory and Personnel Certificates

If you have any questions or require additional information, please do not hesitate to contact me at (910) 763-3445.

Sincerely,
Precision Environmental, Inc.

Jonathan Guetta
NC Asbestos Inspector Accreditation #11936

PRECISION ENVIRONMENTAL INC.
36-15A 23rd Street, LIC, NY 11106
Tel: 718.383.2626, Fax: 718.383.7780
Accredited by NVLAP #200640-0, NY State ELAP #11764

BULK ASBESTOS ANALYSIS RESULTS

Client: New Hanover County Schools
6410 Carolina Beach Rd.
Wilmington , NC 28412

Sampling Date : 9/21/2018
Date Received : 9/24/2018 11:00:00 AM
Date Analyzed : 9/24/2018
Precision Batch # 18-4009
Methods: EPA 600/M4/ 82/ 020 ☑
ELAP 198.1 ☐

Project: Trask Middle School - Ceiling tile Clarification
2900 North College Road
Wilmington, NC 28405

Location: Media center

Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*
092118-TMS-1 *18-4009 -1*	Media center courtyard wall	Cement wall board material	PLM	Gray		6.3% Chrysotile		93.7% Mineral Filler
092118-TMS-2 *18-4009 -2*	Positive stop see #1	Positive stop see #1				NOT ANALYZED		

Legend: TRACE = LESS THAN LIMIT OF QUANTITATION (<0.25%); ND = NONE DETECTED
Note 1: For point counts the limit of quantization of 0.25% is based on one asbestos point counted over 400 non-empty points.
Note 2: >1% asbestos by weight is considered an ACM (Asbestos Containing Material).
Note 3: The condition of all samples was acceptable upon receipt.
Note 4: This report must not be used by the client to claim product endorsement by NVLAP or any agency of the US Government;
Note 5: This test report relates only to the items tested.
Note 6: The laboratory is not responsible for samples collected by commercial clients.
Note 7: The laboratory is not responsible for procedures requested by clients that are deviant from the EPA and ELAP protocols.
Note 8: This sample was sent to an outside laboratory for NOB-PLM and NOB-TEM analysis. See outside laboratory's Bulk Asbestos Analysis Result report. PLM is not consistently reliable in detecting asbestos in NOB materials. Quantitative TEM is currently the only method that can be used to determine if NOB material can be considered or treated as NON-ACM.
Note 9: Supplement to test report Batch # _____ Amendment(s) #: _____ Amendment Date(s): _____ By: _____
Note 10: All bulk samples are tested for vermiculite and the amount of vermiculite calculated is reported. If no vermiculite is reported indicates that no vermiculite is detected.
Note 11: At Client's request sample was not analyzed.
The laboratory is not responsible for sample collection. This report may not be reproduced, except in full, without written approval by Precision Environmental Inc. This report may not be used to claim product endorsement by NVLAP or any other agency of the US Government. This report relates only to the samples reported above. Quality control data is available upon request.
The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above. Precision Environmental Inc. and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed. This report is accompanied by the PLM Analysis Letter.

Jianhua Zhou
Analyzed by:

Michael Parpounas
Approved by: Caidong Shi for

BULK SAMPLE DATA AND CHAIN OF CUSTODY

TURNAROUND TIME

___ 6hr. ___ 12 hr. _x_ 24hr.
___ 48 hr. ___ 72 hr. ___ other

PRECISION ENVIRONMENTAL INC.
3802 Cherry Ave. Wilmington, NC 28403
Tel: 910-763-3445,Fax: 910-763-3415
Email: jguetta@precision-enviro.com

CLIENT INFORMATION	PROJECT INFORMATION	
NAME: New Hanover County Schools	PROJECT NAME: Trask Middle School - Ceiling Tile Clarification	
CLIENT PROJECT #: NA	P.E. PROJECT #: 5104-18-0008-1A-1	Number of samples 2
BUILDING NAME: Trask Middle School	INSPECTOR(S) NAME: Jonathan Guetta	
BUILDING ADDRESS: 2900 North College Road Wilmington, NC 28405	SAMPLING AREAS: Media Center	DATE: 09/21/18

SPECIAL INSTRUCTIONS:
Positive stop for each Homogeneous area (HGA) List positive stops on sample analysis forms. Separate all layers prior to analysis and report separately. If analysis of joint compound reveals greater than 1% asbestos, composite wallboard and joint compound samples and re-analyze . Email results to: jguetta@precision-enviro.com

HOMOGENEOUS AREA (HGA)	BULK SAMPLE ID/#:	MATERIAL DESCRIPTION	SAMPLE LOCATION: SYSTEM	SAMPLE LOCATION: FLOOR/SPACE ID #:	SAMPLE LOCATION: SAMPLE COORDINATES	QUANTITY	PLM	NOB-PLM	NOB-TEM
1	092118-TMS-01	Cement wall board material	na	na	Media center courtyard wall		x		
1	092118-TMS-02	Cement wall board material	na	na	Media center courtyard wall		x		

RELINQUISHED BY (FULL NAME & SIGNATURE)	RECEIVED BY: (FULL NAME & SIGNATURE)	DATE	TIME	METHOD OF SUBMITTAL
1. Jonathan Guetta		09/21/18		Overnight mail
2.		9/24/18	11:00A	
3.				

LAB INFORMATION

BATCH #:	ANALYZED BY (FULL NAME)	SIGNATURE:	DATE	TIME	COMMENTS (LAB)
18-4009			9/24/18	3:22p	
	Q.C. BY:				

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200640-0

Precision Environmental Inc.

Long Island City, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2018-07-01 through 2019-06-30

Effective Dates

DEPARTMENT OF COMMERCE * UNITED STATES OF AMERICA *

For the National Voluntary Laboratory Accreditation Program

National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Precision Environmental Inc.
36-15A 23rd Street
Long Island City, NY 11106
Mr. Michael Parpounas
Phone: 718-383-2626 Fax: 718-383-7780
Email: lab@precision-enviro.com
http://www.precision-enviro.com

ASBESTOS FIBER ANALYSIS — NVLAP LAB CODE 200640-0

Bulk Asbestos Analysis

Code	*Description*
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples

For the National Voluntary Laboratory Accreditation Program

North Carolina Department of Health and Human Services

Division of Public Health

Roy Cooper
Governor

Mandy Cohen, MD, MPH
Secretary

Daniel Stanley
Director

April 4, 2018

Jonathan A Guetta
161 Arlington Dr
Wilmington, NC 28401

Dear Mr. Guetta:

Based upon the review of your accreditation application, the Health Hazards Control Unit (HHCU) has determined that you have fulfilled the requirements and are eligible for asbestos accreditation as a(n) INSPECTOR. Your assigned North Carolina accreditation number is 11936, which is reflected on your enclosed North Carolina Accreditation card. Please be sure to take this card with you to any asbestos work site where you are employed. The State requires that all persons conducting asbestos abatement or asbestos management activities be accredited and have their identification card on site.

Your North Carolina Inspector accreditation will expire on MARCH 31, 2019. It is NOT the policy of the HHCU to issue renewal notices. If you wish to continue working as a(n) Inspector after this expiration date, you must successfully complete the required training and submit a completed application to this office prior to March 31, 2019. If you should continue to perform asbestos management activities as a(n) Inspector without a valid North Carolina accreditation, you will be in violation of State regulations and may be cited for noncompliance.

Sincerely,

Ed Norman
Program Manager
Health Hazards Control Unit

Enclosure

Location: 5505 Six Forks Road, Raleigh, NC 27609 | Mailing Address: 1912 Mail Service Center, Raleigh, NC 27699-1912
919-707-5950 T | 919-870-4808 F
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PRECISION ENVIRONMENTAL INC.

3802 Cherry Ave., Wilmington, NC 28403
Tel: 910-763-3445 Fax: 910-763-3415
www.precision-enviro.com

February 25, 2019

New Hanover County Schools
Attn: Kim Gordon
6410 Carolina Beach Road
Wilmington, NC 28412

Re: Limited Asbestos Bulk Sampling & Analysis at:
Trask Middle School
2900 College Rd.
Wilmington, NC 28405
Precision Project No.: 5104-19-0006-1A

On February 21, 2019, Jonathan Guetta (NC Asbestos Building Inspector Accreditation No.) of Precision Environmental, Inc. (Precision) conducted a limited asbestos survey at the above referenced facility. The survey included all materials which may be disturbed during the upcoming renovation project which were not previously inspected or identified in prior surveys.

The purpose of the survey was to verify the presence or absence of asbestos containing materials (ACM) associated with the facility prior to renovation procedures. This inspection included the interior and exterior of the facility.

Prior to sample collection, a visual inspection was conducted in order to determine homogeneous materials/areas and sample locations. Asbestos containing materials are defined as materials that contain greater than 1% asbestos via Polarized Light Microscopy (PLM). Homogeneous Areas (HGA) are determined by the material's color and texture. Asbestos containing materials are defined by the following descriptions: surfacing material (SM), thermal system insulation (TSI) and miscellaneous materials (M). Both friable and non-friable materials were included in the inspection. Friable materials are defined as those that can be pulverized by hand pressure.

Bulk sampling of suspect ACM was conducted in accordance with the sampling requirements promulgated by the United States Environmental Protection Agency's "Asbestos-Containing Materials in Schools Rule" (40 CFR 763, Subpart E), commonly referred to as the "Asbestos Hazard Emergency Response Act" or AHERA regulations. Sample locations were selected at random.

Sample locations were selected at random.

As a result, a total of twelve (12) bulk samples were collected from six (6) different suspect asbestos-containing materials. A listing of identified suspect ACM materials and the number of samples collected from each homogeneous area (HGA) is provided in Table 1 below:

Table 1: Identified Asbestos Suspect Materials

Suspect material (HGA)	Description	Friable/Non-friable	Sample Location	No. of Samples Collected
1. Exterior door caulk	M	NF	1976 Section	2
2. Exterior window caulk. Gray	M	NF	1976 Section	2
3. Exterior window caulk. Black	M	NF	1976 Section	2
4. Window/door caulk	M	NF	1989 Section	2
5. Window glaze. Black. Repair areas	M	NF	1989 Section	2

Suspect material (HGA)	Description	Friable/Non-friable	Sample Location	No. of Samples Collected
6. 12 x 12 floor tile/mastic. Cream with gray specks	M	NF	Rooms C-21 and C25	2

SM: Surfacing material TSI: Thermal System Insulation M: Miscellaneous material
F: Friable NF: Non-Friable

Collected samples were given a unique identification number, which included the date, building acronym (TMS) and sample number, logged onto a chain of custody form and shipped to an accredited laboratory for analysis. All samples were analyzed by Polarized Light Microscopy (PLM) via EPA method 600/M4/82/020. Multi layered samples were separated prior to analysis and analyzed separately per EPA protocol. In an effort to reduce cost, Precision instructed the laboratory to STOP analysis at the first positive sample for each suspect material HGA and not to analyze the remaining samples from the same HGA. As a result, a total of fourteen (14) samples were analyzed.

Results

Laboratory analysis of the bulk samples collected revealed that *none* of the suspect materials sampled contain greater than 1% asbestos via PLM analysis and may be treated as non-asbestos containing materials.

Listing of identified Non-ACM materials is provided in Table 2 below:

Table 2: Identified Non-ACM Materials

Material	Description	Friable/Non-friable	Location	Laboratory Result	Approx. Quantity
1. Exterior door caulk	M	NF	1976 Section	None detected	N/A
2. Exterior window caulk. Gray	M	NF	1976 Section	None detected	N/A
3. Exterior window caulk. Black	M	NF	1976 Section	None detected	N/A
4. Window/door caulk	M	NF	1989 Section	None detected	N/A
5. Window glaze. Black. Repair areas	M	NF	1989 Section	None detected	N/A
6. 12 x 12 floor tile/mastic. Cream with gray specks	M	NF	Rooms C-21 and C25	None detected	N/A

SF = Square Feet N/A = Not Applicable

The following materials are known to be asbestos containing within the facility based on previous AHERA sampling:

- 12 x 12 floor tile/mastic located throughout the facility – Approx. 32,000 sq. ft.
- Mastic associated with non-asbestos floor tile – Approx. 620 sq. ft. (Located within the office area and storage room by the gymnasium
- Cement panel boards – Exterior courtyard wall behind wood siding adjacent to media center – Approx. 870 sq. ft.
- Cement fiber freeze panel boards – 1976 Wing at room A11 (Gymnasium Facia panels) – Approx. 1,085 sq. ft.
- Cement fiber freeze panel boards – 1976 Wing at room A3 (Cafeteria facia panels) – Approx. 2,070 sq. ft.
- Cement fiber freeze panel boards – 1976 Wing at courtyard (Courtyard facia panels) – Approx. 330 sq. ft.

A physical/visual inspection revealed the following:

- Asbestos containing floor tile and mastic exists under permanent fixtures and cabinets.
- Floor tile does not appear to extend under the walls within the science wing.
- Accessible roof drain pipes are non-suspect cast iron.
- Thermal system insulation within the facility and mechanical rooms is non-suspect fiberglass

- No suspect duct mastic was noted on the HVAC duct work throughout the facility.
- No suspect thermal system insulation was noted within the restrooms (No destructive sampling conducted).
- Walls within the locker/shower areas are non-suspect cinderblock.
- Flooring in bathrooms and lockers is non-suspect ceramic.
- Flooring within the shop area is non-suspect concrete.
- No windows or doors were noted on the 1992 section, therefore no suspect caulk or glaze present.

Asbestos containing materials are a regulated material and must be handled accordingly. If the material is to be disturbed/removed, the material must be removed in accordance with all applicable Federal, State and Local regulations. In addition, the material must be disposed of asbestos containing waste and may not be disposed of as construction debris.

All efforts were made to discover/sample all suspect asbestos containing materials. If additional materials not addressed during this inspection are to be disturbed, Precision strongly recommends that those materials either be assumed to be asbestos containing, or that bulk samples be collected to determine the materials asbestos content prior to their disturbance.

All bulk sample analytical results as well sample locations are outlined in detail on the attached "BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM" form and laboratory's "BULK ASBESTOS ANALYSIS RESULTS" form.

Attached please find the following:
- Bulk Asbestos Analysis Sheet
- Bulk Sample Data And Chain Of Custody Form
- Laboratory and Personnel Certificates

If you have any questions or require additional information, please do not hesitate to contact me at (910) 763-3445.

Sincerely,
Precision Environmental, Inc.

Jonathan Guetta
NC Asbestos Inspector Accreditation #11936

cc: Irene Sotiriou – LEA Designee

PRECISION ENVIRONMENTAL INC.
36-15A 23rd Street, LIC, NY 11106
Tel: 718.383.2626, Fax: 718.383.7780
Accredited by NVLAP #200640-0, NY State ELAP #11764

BULK ASBESTOS ANALYSIS RESULTS

Client: New Hanover County Schools
6410 Carolina Beach Rd.
Wilmington , NC 28412

Project: Trask Middle School - Renovation Project
2900 N. College Rd.
Wilmington, NC 28405

Location: Multiple

Sampling Date : 2/21/2019
Date Received : 2/22/2019 10:42:00 AM
Date Analyzed : 2/22/2019
Precision Batch # 19-4132
Methods: EPA 600/M4/ 82/ 020 ☑
ELAP 198.1 ☐

Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*
022119-TSM-1 *19-4132 -1*	1976 section	Door caulk	PLM	Tan		NONE DETECTED	2% FiberGlass	18% Mineral Filler 80% Organic Binder
022119-TSM-2 *19-4132 -2*	1976 section	Door caulk	PLM	Tan		NONE DETECTED	3% FiberGlass	16% Mineral Filler 81% Organic Binder
022119-TSM-3 *19-4132 -3*	1976 section	Window caulk, gray	PLM	Gray		NONE DETECTED		18% Mineral Filler 82% Organic Binder
022119-TSM-4 *19-4132 -4*	1976 section	Window caulk, gray	PLM	Gray		NONE DETECTED		16% Mineral Filler 84% Organic Binder
022119-TSM-5 *19-4132 -5*	1976 section	Window caulk, black	PLM	Black		NONE DETECTED		22% Mineral Filler 78% Organic Binder
022119-TSM-6 *19-4132 -6*	1976 section	Window caulk, black	PLM	Black		NONE DETECTED		20% Mineral Filler 80% Organic Binder
022119-TSM-7 *19-4132 -7*	1989 section	Window/door caulk	PLM	Gray		NONE DETECTED		18% Mineral Filler 82% Organic Binder
022119-TSM-8 *19-4132 -8*	1989 section	Window/door caulk	PLM	Gray		NONE DETECTED		16% Mineral Filler 84% Organic Binder

PRECISION ENVIRONMENTAL INC.
36-15A 23rd Street, LIC, NY 11106
Tel: 718.383.2626, Fax: 718.383.7780
Accredited by NVLAP #200640-0, NY State ELAP #11764

BULK ASBESTOS ANALYSIS RESULTS

Client: New Hanover County Schools
6410 Carolina Beach Rd.
Wilmington , NC 28412

Project: Trask Middle School - Renovation Project
2900 N. College Rd.
Wilmington, NC 28405

Location: Multiple

Sampling Date : 2/21/2019
Date Received : 2/22/2019 10:42:00 AM
Date Analyzed : 2/22/2019
Precision Batch # 19-4132
Methods: EPA 600/M4/ 82/ 020 ☑
ELAP 198.1 ☐

Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*
022119-TSM-9 *19-4132 -9*	1989 section	Window glaze, black repair	PLM	Black		NONE DETECTED		16% Mineral Filler 84% Organic Binder
022119-TSM-10 *19-4132 -10*	1989 section	Window glaze, black repair	PLM	Black		NONE DETECTED		14% Mineral Filler 86% Organic Binder
022119-TSM-11A *19-4132 -11*	Room C-25	12x12 floor tile, cream with gray specks	PLM	Cream		NONE DETECTED		67% Mineral Filler 33% Organic Binder
022119-TSM-11B *19-4132 -12*	Room C-25	Mastic of 12x12 floor tile	PLM	Yellow		NONE DETECTED		10% Mineral Filler 90% Organic Binder
022119-TSM-12A *19-4132 -13*	Room C-21	12x12 floor tile, cream with gray specks	PLM	Cream		NONE DETECTED		69% Mineral Filler 31% Organic Binder
022119-TSM-12B *19-4132 -14*	Room C-21	Mastic of 12x12 floor tile	PLM	Yellow		NONE DETECTED		8% Mineral Filler 92% Organic Binder

PRECISION ENVIRONMENTAL INC.
36-15A 23rd Street, LIC, NY 11106
Tel: 718.383.2626, Fax: 718.383.7780
Accredited by NVLAP #200640-0, NY State ELAP #11764

BULK ASBESTOS ANALYSIS RESULTS

Client: New Hanover County Schools
6410 Carolina Beach Rd.
Wilmington , NC 28412

Sampling Date : 2/21/2019
Date Received : 2/22/2019 10:42:00 AM
Date Analyzed : 2/22/2019
Precision Batch # 19-4132
Methods: EPA 600/M4/ 82/ 020 ☑
ELAP 198.1 ☐

Project: Trask Middle School - Renovation Project
2900 N. College Rd.
Wilmington, NC 28405

Location: Multiple

Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*

Legend: TRACE = LESS THAN LIMIT OF QUANTITATION (<0.25%); ND = NONE DETECTED
Note 1: For point counts the limit of quantization of 0.25% is based on one asbestos point counted over 400 non-empty points.
Note 2: >1% asbestos by weight is considered an ACM (Asbestos Containing Material).
Note 3: The condition of all samples was acceptable upon receipt.
Note 4: This report must not be used by the client to claim product endorsement by NVLAP or any agency of the US Government;
Note 5: This test report relates only to the items tested.
Note 6: The laboratory is not responsible for samples collected by commercial clients.
Note 7: The laboratory is not responsible for procedures requested by clients that are deviant from the EPA and ELAP protocols.
Note 8: This sample was sent to an outside laboratory for NOB-PLM and NOB-TEM analysis. See outside laboratory's Bulk Asbestos Analysis Result report. PLM is not consistently reliable in detecting asbestos in NOB materials. Quantitative TEM is currently the only method that can be used to determine if NOB material can be considered or treated as NON-ACM.
Note 9: Supplement to test report Batch # _____ Amendment(s) #: _____ Amendment Date(s): _____ By: _____
Note 10: All bulk samples are tested for vermiculite and the amount of vermiculite calculated is reported. If no vermiculite is reported indicates that no vermiculite is detected.
Note 11: At Client's request sample was not analyzed.
The laboratory is not responsible for sample collection. This report may not be reproduced, except in full, without written approval by Precision Environmental Inc. This report may not be used to claim product endorsement by NVLAP or any other agency of the US Government. This report relates only to the samples reported above. Quality control data is available upon request.
The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
Precision Environmental Inc. and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed. This report is accompanied by the PLM Analysis Letter.

Jianhua Zhou
Analyzed by:

Michael Parpounas
Approved by: Caidong Shi for

PRECISION ENVIRONMENTAL INC.

BULK SAMPLE DATA AND CHAIN OF CUSTODY

TURNAROUND TIME

_x_ 6hr. ___ 12 hr. ___ 24hr.
___ 48 hr. ___ 72 hr. ___ other

3802 Cherry Ave. Wilmington, NC 28403
Tel: 910-763-3445,Fax: 910-763-3415
Email: jguetta@precision-enviro.com

CLIENT INFORMATION

NAME: New Hanover County Schools	
CLIENT PROJECT #: NA	
BUILDING NAME: Trask Middle School	
BUILDING ADDRESS: 2900 N. College Rd. Wilmington, NC 28405	

PROJECT INFORMATION

PROJECT NAME: Trask Middle School - Renovation Project	
P.E. PROJECT #: 5104-19-0006-1A	Number of samples 12
INSPECTOR(S) NAME: Jonathan Guetta	
SAMPLING AREAS: Multiple	DATE: 02/21/19

SPECIAL INSTRUCTIONS:
Positive stop for each Homogeneous area (HGA) List positive stops on sample analysis forms. Separate all layers prior to analysis and report separately. If analysis of joint compound reveals greater than 1% asbestos, composite wallboard and joint compound samples and re-analyze . Email results to: jguetta@precision-enviro.com

HOMOGENEOUS AREA (HGA)	BULK SAMPLE ID/#:	MATERIAL DESCRIPTION	SAMPLE LOCATION SYSTEM	SAMPLE LOCATION FLOOR/SPACE ID #:	SAMPLE LOCATION SAMPLE COORDINATES	QUANTITY	PLM	NOB-PLM	NOB-TEM
1	022119-TSM-01	Door caulk	na	na	1976 section		x		
1	022119-TSM-02	Door caulk	na	na	1976 section		x		
2	022119-TSM-03	Window caulk Gray	na	na	1976 section		x		
2	022119-TSM-04	Window caulk Gray	na	na	1976 section		x		
3	022119-TSM-05	Window caulk Black	na	na	1976 section		x		
3	022119-TSM-06	Window caulk Black	na	na	1976 section		x		
4	022119-TSM-07	Window/door caulk	na	na	1989 section		x		
4	022119-TSM-08	Window/door caulk	na	na	1989 section		x		
5	022119-TSM-09	Window glaze Black. Repair	na	na	1989 section		x		
5	022119-TSM-10	Window glaze Black. Repair	na	na	1989 section		x		
6	022119-TSM-11	12 x 12 floor tile/mastic Cream with gray specks	na	na	Room C-25		x		
6	022119-TSM-12	12 x 12 floor tile/mastic Cream with gray specks	na	na	Room C-21		x		

RELINQUISHED BY (FULL NAME & SIGNATURE)	RECEIVED BY: (FULL NAME & SIGNATURE)	DATE	TIME	METHOD OF SUBMITTAL
1.Jonathan Guetta		02/21/19		Overnight mail
2.		2/22/19	10:47A	
3.				

LAB INFORMATION

BATCH #:	ANALYZED BY (FULL NAME)	SIGNATURE:	DATE	TIME	COMMENTS (LAB)
19-4132			2/22/19	12:43	
	Q.C. BY:				

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200640-0

Precision Environmental Inc.

Long Island City, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2018-07-01 through 2019-06-30

Effective Dates

DEPARTMENT OF COMMERCE * UNITED STATES OF AMERICA *

For the National Voluntary Laboratory Accreditation Program

National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Precision Environmental Inc.
36-15A 23rd Street
Long Island City, NY 11106
Mr. Michael Parpounas
Phone: 718-383-2626 Fax: 718-383-7780
Email: lab@precision-enviro.com
http://www.precision-enviro.com

ASBESTOS FIBER ANALYSIS — NVLAP LAB CODE 200640-0

Bulk Asbestos Analysis

Code	*Description*
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples

For the National Voluntary Laboratory Accreditation Program

North Carolina Department of Health and Human Services

Division of Public Health

Roy Cooper
Governor

Mandy Cohen, MD, MPH
Secretary

Daniel Stanley
Director

April 4, 2018

Jonathan A Guetta
161 Arlington Dr
Wilmington, NC 28401

Dear Mr. Guetta:

Based upon the review of your accreditation application, the Health Hazards Control Unit (HHCU) has determined that you have fulfilled the requirements and are eligible for asbestos accreditation as a(n) INSPECTOR. Your assigned North Carolina accreditation number is 11936, which is reflected on your enclosed North Carolina Accreditation card. Please be sure to take this card with you to any asbestos work site where you are employed. The State requires that all persons conducting asbestos abatement or asbestos management activities be accredited and have their identification card on site.

Your North Carolina Inspector accreditation will expire on MARCH 31, 2019. It is NOT the policy of the HHCU to issue renewal notices. If you wish to continue working as a(n) Inspector after this expiration date, you must successfully complete the required training and submit a completed application to this office prior to March 31, 2019. If you should continue to perform asbestos management activities as a(n) Inspector without a valid North Carolina accreditation, you will be in violation of State regulations and may be cited for noncompliance.

Sincerely,

Ed Norman
Program Manager
Health Hazards Control Unit

Enclosure

Location: 5505 Six Forks Road, Raleigh, NC 27609 | Mailing Address: 1912 Mail Service Center, Raleigh, NC 27699-1912
919-707-5950 T | 919-870-4808 F
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PRECISION ENVIRONMENTAL INC.

3802 Cherry Ave., Wilmington, NC 28403
Tel: 910-763-3445 Fax: 910-763-3415
www.precision-enviro.com

March 24, 2019

New Hanover County Schools
Attn: Kim Gordon
6410 Carolina Beach Road
Wilmington, NC 28412

Re: Limited Asbestos Bulk Sampling & Analysis at:
Trask Middle School
2900 College Rd.
Wilmington, NC 28405
Rear soffits- 1976 Section
Precision Project No.: 5104-19-0006-1A

On March 18, 2019, Jonathan Guetta (NC Asbestos Building Inspector Accreditation No.) of Precision Environmental, Inc. (Precision) conducted a limited asbestos survey at the above referenced facility. The survey included the soffits at the 1976 rear courtyard.

The purpose of the survey was to verify the presence or absence of asbestos containing materials (ACM) associated with the soffits prior to renovation procedures.

Prior to sample collection, a visual inspection was conducted in order to determine homogeneous materials/areas and sample locations. Asbestos containing materials are defined as materials that contain greater than 1% asbestos via Polarized Light Microscopy (PLM). Homogeneous Areas (HGA) are determined by the material's color and texture. Asbestos containing materials are defined by the following descriptions: surfacing material (SM), thermal system insulation (TSI) and miscellaneous materials (M). Both friable and non-friable materials were included in the inspection. Friable materials are defined as those that can be pulverized by hand pressure.

Bulk sampling of suspect ACM was conducted in accordance with the sampling requirements promulgated by the United States Environmental Protection Agency's "Asbestos-Containing Materials in Schools Rule" (40 CFR 763, Subpart E), commonly referred to as the "Asbestos Hazard Emergency Response Act" or AHERA regulations. Sample locations were selected at random.

Sample locations were selected at random.

As a result, a total of two (2) bulk samples were collected from a single suspect asbestos-containing materials. A listing of identified suspect ACM materials and the number of samples collected from each homogeneous area (HGA) is provided in Table 1 below:

Table 1: Identified Asbestos Suspect Materials

Suspect material (HGA)	Description	Friable/Non-friable	Sample Location	No. of Samples Collected
1. Gypsum soffits	M	F	1976 Section. Rear courtyard	2

SM: Surfacing material TSI: Thermal System Insulation M: Miscellaneous material
F: Friable NF: Non-Friable

Collected samples were given a unique identification number, which included the date, building acronym (TMS) and sample number, logged onto a chain of custody form and shipped to an accredited laboratory for analysis. All samples were analyzed by Polarized Light Microscopy (PLM) via EPA method 600/M4/82/020. Multi layered samples were separated prior to analysis and analyzed separately per EPA protocol. In an effort to reduce cost, Precision instructed the laboratory to STOP analysis at the first positive sample for each suspect material HGA and not to analyze the remaining samples from the same HGA. As a result, a total of two (2) samples were analyzed.

Results

Laboratory analysis of the bulk samples collected revealed that ***none*** of the suspect materials sampled contain greater than 1% asbestos via PLM analysis and may be treated as non-asbestos containing materials.

Listing of identified Non-ACM materials is provided in Table 2 below:

Table 2: Identified Non-ACM Materials

Material	Description	Friable/Non-friable	Location	Laboratory Result	Approx. Quantity
1. Gypsum soffits	M	F	1976 Section. Rear courtyard	None detected	N/A

SF = Square Feet N/A = Not Applicable

All efforts were made to discover/sample all suspect asbestos containing materials. If additional materials not addressed during this inspection are to be disturbed, Precision strongly recommends that those materials either be assumed to be asbestos containing, or that bulk samples be collected to determine the materials asbestos content prior to their disturbance.

All bulk sample analytical results as well sample locations are outlined in detail on the attached "BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM" form and laboratory's "BULK ASBESTOS ANALYSIS RESULTS" form.

Attached please find the following:

- Bulk Asbestos Analysis Sheet
- Bulk Sample Data And Chain Of Custody Form
- Laboratory and Personnel Certificates

If you have any questions or require additional information, please do not hesitate to contact me at (910) 763-3445.

Sincerely,
Precision Environmental, Inc.

Jonathan Guetta
NC Asbestos Inspector Accreditation #11936

cc: Irene Sotiriou – LEA Designee

PRECISION ENVIRONMENTAL INC.
36-15A 23rd Street, LIC, NY 11106
Tel: 718.383.2626, Fax: 718.383.7780
Accredited by NVLAP #200640-0, NY State ELAP #11764

BULK ASBESTOS ANALYSIS RESULTS

Client: New Hanover County Schools
6410 Carolina Beach Rd.
Wilmington , NC 28412

Project: 2900 N. College Road
2900 N. College Road
Wilmington, NC 28405

Location: 1976 Section rear courtyard

Sampling Date : 3/18/2019
Date Received : 3/19/2019 11:26:00 AM
Date Analyzed : 3/19/2019
Precision Batch # 19-4162
Methods: EPA 600/M4/ 82/ 020 ☑
ELAP 198.1 ☐

Sample #	*Location*	*Type of Material*	*Method*	*Color*	*Asbestos % Type by NOB PLM/TEM*	*Asbestos % Type by PLM*	*Non-Asbestos % Fibrous*	*Non-Asbestos % Non-Fibrous*
031819-TMS-1 *19-4162 -1*	1976 section, rear courtyard	Gypsum soffit	PLM	Beige		NONE DETECTED	12% Cellulose Trace% FiberGlass	88% Mineral Filler
031819-TMS-2 *19-4162 -2*	1976 section, rear courtyard	Gypsum soffit	PLM	Beige		NONE DETECTED	6% Cellulose Trace% FiberGlass	94% Mineral Filler

Legend: TRACE = LESS THAN LIMIT OF QUANTITATION (<0.25%); ND = NONE DETECTED
Note 1: For point counts the limit of quantization of 0.25% is based on one asbestos point counted over 400 non-empty points.
Note 2: >1% asbestos by weight is considered an ACM (Asbestos Containing Material).
Note 3: The condition of all samples was acceptable upon receipt.
Note 4: This report must not be used by the client to claim product endorsement by NVLAP or any agency of the US Government;
Note 5: This test report relates only to the items tested.
Note 6: The laboratory is not responsible for samples collected by commercial clients.
Note 7: The laboratory is not responsible for procedures requested by clients that are deviant from the EPA and ELAP protocols.
Note 8: This sample was sent to an outside laboratory for NOB-PLM and NOB-TEM analysis. See outside laboratory's Bulk Asbestos Analysis Result report. PLM is not consistently reliable in detecting asbestos in NOB materials. Quantitative TEM is currently the only method that can be used to determine if NOB material can be considered or treated as NON-ACM.
Note 9: Supplement to test report Batch # _____ Amendment(s) #: _____ Amendment Date(s): _____ By: _____
Note 10: All bulk samples are tested for vermiculite and the amount of vermiculite calculated is reported. If no vermiculite is reported indicates that no vermiculite is detected.
Note 11: At Client's request sample was not analyzed.
The laboratory is not responsible for sample collection. This report may not be reproduced, except in full, without written approval by Precision Environmental Inc. This report may not be used to claim product endorsement by NVLAP or any other agency of the US Government. This report relates only to the samples reported above. Quality control data is available upon request.
The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.
Precision Environmental Inc. and its personnel shall not be liable for any misinformation provided to us by the client regarding these samples. This report relates only to samples submitted and analyzed. This report is accompanied by the PLM Analysis Letter.

Jianhua Zhou
Analyzed by:

Michael Parpounas
Approved by: Caidong Sun for

PRECISION ENVIRONMENTAL INC.

BULK SAMPLE DATA AND CHAIN OF CUSTODY

TURNAROUND TIME

x 6hr. ___ 12 hr. ___ 24hr.
___ 48 hr. ___ 72 hr. ___ other

3802 Cherry Ave. Wilmington, NC 28403
Tel: 910-763-3445,Fax: 910-763-3415
Email: jguetta@precision-enviro.com

CLIENT INFORMATION

NAME: New Hanover County Schools	
CLIENT PROJECT #: NA	
BUILDING NAME: Trask Middle School	
BUILDING ADDRESS: 2900 N. College Rd. Wilmington, NC 28405	

PROJECT INFORMATION

PROJECT NAME: Trask Middle School - Renovation Project	
P.E. PROJECT #: 5104-19-0006-1A	Number of samples 2
INSPECTOR(S) NAME: Jonathan Guetta	
SAMPLING AREAS: 1976 Section. Rear courtyard	DATE: 03/18/19

SPECIAL INSTRUCTIONS:
Positive stop for each Homogeneous area (HGA) List positive stops on sample analysis forms. Separate all layers prior to analysis and report separately. If analysis of joint compound reveals greater than 1% asbestos, composite wallboard and joint compound samples and re-analyze . Email results to: jguetta@precision-enviro.com

HOMOGENEOUS AREA (HGA)	BULK SAMPLE ID/#:	MATERIAL DESCRIPTION	SAMPLE LOCATION SYSTEM	SAMPLE LOCATION FLOOR/SPACE ID #:	SAMPLE LOCATION SAMPLE COORDINATES	QUANTITY	PLM	NOB-PLM	NOB-TEM
1	031819-TMS-01	Gypsum soffit	na	na	1976 Section Rear courtyard		x		
1	031819-TMS-02	Gypsum soffit	na	na	1976 Section Rear courtyard		x		

RELINQUISHED BY (FULL NAME & SIGNATURE)	RECEIVED BY: (FULL NAME & SIGNATURE)	DATE	TIME	METHOD OF SUBMITTAL
1.Jonathan Guetta		03/18/19		Overnight mail
2.		3/19/19	11:26A	
3.				

LAB INFORMATION

BATCH #:	ANALYZED BY (FULL NAME)	SIGNATURE:	DATE	TIME	COMMENTS (LAB)
19-4162			3/19/19	11:51A	
	Q.C. BY:				

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200640-0

Precision Environmental Inc.

Long Island City, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2018-07-01 through 2019-06-30

Effective Dates

DEPARTMENT OF COMMERCE * UNITED STATES OF AMERICA *

For the National Voluntary Laboratory Accreditation Program

National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Precision Environmental Inc.
36-15A 23rd Street
Long Island City, NY 11106
Mr. Michael Parpounas
Phone: 718-383-2626 Fax: 718-383-7780
Email: lab@precision-enviro.com
http://www.precision-enviro.com

ASBESTOS FIBER ANALYSIS — NVLAP LAB CODE 200640-0

Bulk Asbestos Analysis

Code	*Description*
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples

For the National Voluntary Laboratory Accreditation Program

North Carolina Department of Health and Human Services

Division of Public Health

Roy Cooper
Governor

Mandy Cohen, MD, MPH
Secretary

Daniel Stanley
Director

April 4, 2018

Jonathan A Guetta
161 Arlington Dr
Wilmington, NC 28401

Dear Mr. Guetta:

Based upon the review of your accreditation application, the Health Hazards Control Unit (HHCU) has determined that you have fulfilled the requirements and are eligible for asbestos accreditation as a(n) INSPECTOR. Your assigned North Carolina accreditation number is 11936, which is reflected on your enclosed North Carolina Accreditation card. Please be sure to take this card with you to any asbestos work site where you are employed. The State requires that all persons conducting asbestos abatement or asbestos management activities be accredited and have their identification card on site.

Your North Carolina Inspector accreditation will expire on MARCH 31, 2019. It is NOT the policy of the HHCU to issue renewal notices. If you wish to continue working as a(n) Inspector after this expiration date, you must successfully complete the required training and submit a completed application to this office prior to March 31, 2019. If you should continue to perform asbestos management activities as a(n) Inspector without a valid North Carolina accreditation, you will be in violation of State regulations and may be cited for noncompliance.

Sincerely,

Ed Norman
Program Manager
Health Hazards Control Unit

Enclosure

Location: 5505 Six Forks Road, Raleigh, NC 27609 | Mailing Address: 1912 Mail Service Center, Raleigh, NC 27699-1912
919-707-5950 T | 919-870-4808 F
An Equal Opportunity / Affirmative Action Employer

PRECISION ENVIRONMENTAL INC.

3802 Cherry Ave.
Wilmington, NC 28403
Ph: 910-763-3445 Fax: 910-763-3415
jguetta@precision-enviro.com

February 25, 2019

New Hanover County Schools
Attn: Kimberly Gordon
6410 Carolina Beach Rd.
Wilmington, NC 28412

Re: Limited Lead Based Paint Sampling at:
Trask Middle School
Wilmington, NC
Precision Project No.: 5104-19-0006-1A

Precision Environmental, Inc. (Precision) was retained by New Hanover County Schools to conduct a limited lead-based paint (LBP) X-Ray Fluorescence (XRF) inspection within the above references structure. Precision's representative, Jonathan Guetta (North Carolina Certified Lead Inspector/Risk Assessor certification No. 120097) performed the LBP XRF testing on February 21, 2019.

Sampling was limited to structural components above drop ceilings/within walls at areas specified by the client.

Testing was conducted utilizing a RMD LPA-1 Lead Paint XRF lead paint analyzer (Serial # 02540).

The instrument was operated in accordance with manufacturer's instructions.

The purpose of the survey was to verify the presence or absence of lead painted/coated components associated with the structure prior to renovation procedures.

The following procedures were used during this inspection:

- XRF readings were taken from structural metal components at areas described by the client.

Thirteen (13) XRF readings including six (6) calibration readings were collected from the painted components associated with the structure.

Note: OSHA defines <u>any</u> detectable level of lead in paint a concern when renovations/demolition will impact lead coated surfaces.

Results

Observations
The painted components are in intact condition overall.

XRF samples
Based on the XRF readings, the following components were found to contain lead at or in excess of 0.0 mg/cm^2:

Room C8
- Bar truss – Metal – Orange – Intact condition
- I-Beam – Metal Orange – Intact condition

A list of all components sampled can be found in the attached "Lead Inspection Report"

Recommendations

The following components should be assumed to be lead containing based on XRF sampling:

- All orange painted metal I-beams, bar trusses, joists etc. within the facility.

The following abbreviations have been used within the report to describe the condition and location of the surfaces tested:

I – Intact
F – Fair Condition
P – Poor Condition
U Ctr – Upper Center
L Ctr – Lower Center

Control Options
(The following control options do not constitute a specification; rather they are recommendations on handling lead painted components)

If tie in work on I-Beams requires cutting, welding or other attachments:

- All orange painted steel I-beams, trusses and columns should be assumed to be coated with lead based paint
- Areas of cutting and/or welding should have the paint removed down to bare steel
- Removal should initiate at the area of cut/weld and continue one (1) foot above and below, or left and right of the cut/weld area.
- Where accessible, removal should take place on all sides of beams that are to be welded due to the potential for heat from welding procedures flashing/disturbing lead paint on the opposite and adjacent sides of the beam.
- Precision recommends that removal take place utilizing either chemical strippers or needle guns with attached (local) HEPA vacuum attachment)
- *Paint chips disturbed during needle gun or stripping procedures should be collected and subjected to TCLP analysis prior to disposal. If the TCLP lead results are reported as greater than 5.0 mg/L then the waste would be considered hazardous and must be disposed of as such. If the analytical results came back less than 5.0 mg/L, the material can be disposed of at a lined, Subtitle D facility (Sampson County Landfill accepts this type of waste) (Typically this type of removal produces very small amounts of lead paint chips.)*

All work shall be conducted by workers trained in "lead safe work practices" as outlined by the Occupational Safety and Health Administration (OSHA).

If you have any questions or require additional information please do not hesitate to contact me at (910) 763-3445.

Sincerely,
PRECISION ENVIRONMENTAL INC.

Jonathan Guetta
NC Lead Inspector/Risk Assessor 120097

Attachments:
Lead-Based Paint Testing Data by XRF
Inspector certification

LEAD PAINT INSPECTION REPORT

REPORT NUMBER: S#02540 - 02/21/19 16:43

INSPECTION FOR: New Hanover County Schools

PERFORMED AT: Trask Middle School
2900 College Rd.
Wilmington, NC 28405

INSPECTION DATE: 02/21/19

INSTRUMENT TYPE: R M D
MODEL LPA-1
XRF TYPE ANALYZER
Serial Number: 02540

ACTION LEVEL: 0.0 mg/cm**2

OPERATOR LICENSE: 065-1509-1

STATEMENT: Jonathan Guetta - NC Lead Inspector/Risk Assessor # 120097

SIGNED _____ DATE February 25, 2019

SEQUENTIAL REPORT OF LEAD PAINT INSPECTION FOR: New Hanover County Schools

Inspection Date:	02/21/19	Trask Middle School
Report Date:	2/25/2019	2900 College Rd.
Abatement Level:	0.0	Wilmington, NC 28405
Report No.	S#02540 - 02/21/19 16:43	
Total Readings:	13	
Job Started:	02/21/19 16:43	
Job Finished:	02/21/19 17:15	

Read No.	Rm	Room Name	Wall	Structure	Location	Member	Paint Cond	Substrate	Paint Color	Lead (mg/cm²)	Mode
1		CALIBRATION								1.0	Std
2		CALIBRATION								0.9	Std
3		CALIBRATION								0.9	Std
4	001	Lobby 2	A	Bar Truss	Ctr		I	Metal	Yellow	-0.2	QM
5	001	Lobby 2	A	Bar Truss	Ctr		I	Metal	Black	-0.3	QM
6	002	Room C8	A	Bar Truss	Ctr		I	Metal	Orange	1.0	QM
7	002	Room C8	A	I-Beam	Ctr		I	Metal	Orange	3.1	QM
8	003	Media Cntr	A	I-Beam	Ctr		I	Metal	Red	-0.3	QM
9	003	Media Cntr	A	Column	Ctr		I	Metal	Red	-0.2	QM
10	003	Media Cntr	A	I-Beam	Ctr		I	Metal	Red	-0.2	QM
11		CALIBRATION								0.8	Std
12		CALIBRATION								0.9	Std
13		CALIBRATION								0.8	Std

---- End of Readings ----

DETAILED REPORT OF LEAD PAINT INSPECTION FOR: New Hanover County Schools

Inspection Date:	02/21/19	Trask Middle School
Report Date:	2/25/2019	2900 College Rd.
Abatement Level:	0.0	Wilmington, NC 28405
Report No.	S#02540 - 02/21/19 16:43	
Total Readings:	13	
Job Started:	02/21/19 16:43	
Job Finished:	02/21/19 17:15	

Read No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Paint Color	Lead (mg/cm²)	Mode
Interior Room 001 Lobby 2									
004	A	Bar Truss	Ctr		I	Metal	Yellow	-0.2	QM
005	A	Bar Truss	Ctr		I	Metal	Black	-0.3	QM
Interior Room 002 Room C8									
006	A	Bar Truss	Ctr		I	Metal	Orange	1.0	QM
007	A	I-Beam	Ctr		I	Metal	Orange	3.1	QM
Interior Room 003 Media Cntr									
008	A	I-Beam	Ctr		I	Metal	Red	-0.3	QM
009	A	Column	Ctr		I	Metal	Red	-0.2	QM
010	A	I-Beam	Ctr		I	Metal	Red	-0.2	QM
Calibration Readings									
001								1.0	Std
002								0.9	Std
003								0.9	Std
011								0.8	Std
012								0.9	Std
013								0.8	Std

---- End of Readings ----

North Carolina Department of Health and Human Services

Division of Public Health

Roy Cooper
Governor

Mandy Cohen, MD, MPH
Secretary

Daniel Stanley
Director

April 24, 2018

Jonathan A Guetta
161 Arlington Dr
Wilmington, NC 28401

Dear Mr. Guetta:

The Health Hazards Control Unit (HHCU) has determined that you have fulfilled the application requirements and are eligible for lead certification as a(n) RISK ASSESSOR. Your assigned Risk Assessor certification number is 120097, which is reflected on your enclosed North Carolina Lead Certification card. The State requires that all persons conducting regulated lead-based paint activities be certified and have their identification card on-site.

A "Lead-Based Paint Activity Summary" shall be submitted to the HHCU by the certified inspector or risk assessor within 45 days of each inspection, risk assessment, or lead hazard screen conducted. The information shall be submitted on a form provided or approved by the Program, per 10A NCAC 41C .0807(b), Lead-Based Paint Hazard Management Program Rules.

Accredited refresher training must be completed at least every 24 months from the date of the last accredited training course **AND** within twelve months prior to applying for certification. The HHCU strongly recommends that individuals note the date of certification expiration and ensure all refresher training meets the above requirements.

Your North Carolina Risk Assessor certification will expire on APRIL 30, 2019. It is NOT the policy of the HHCU to issue renewal notices. If you wish to continue working as a(n) Risk Assessor after this expiration date, you must successfully complete the required training and submit a completed application to this office prior to April 30, 2019. If you should perform lead-based paint activities as a(n) Risk Assessor without a valid North Carolina certification, you will be in violation of State regulations and may be cited for noncompliance.

If you have any questions, please contact our office at (919) 707-5954.

Sincerely,

Ed Norman
Program Manager
Health Hazards Control Unit

Location: 5505 Six Forks Road, Raleigh, NC 27609 | Mailing Address: 1912 Mail Service Center, Raleigh, NC 27699-1912
919-707-5950 T | 919-870-4808 F
An Equal Opportunity / Affirmative Action Employer

ECS Southeast, LLP

Geotechnical Engineering Report

Trask Middle School Renovations

2900 N College Rd
Wilmington, New Hanover County, North Carolina

ECS Project Number # 22:27176

October 22, 2018

October 22, 2018

Ms. Kimberly Gordon
New Hanover County Schools
6410 Carolina Beach Road
Wilmington, NC 28412

ECS Project No. 22:27176

Reference: Geotechnical Engineering Report
Trask Middle School Renovations
2900 N College Rd
Wilmington, New Hanover County, North Carolina

Dear Mr. Thomas:

ECS Southeast, LLP (ECS) has completed the subsurface exploration and geotechnical engineering analyses for the above-referenced project. Our services were performed in general accordance with ECS Proposal No. 22:22820, dated October 5, 2018. This report presents our understanding of the geotechnical aspects of the project, the results of the field exploration conducted, and our design and construction recommendations.

It has been our pleasure to be of service to New Hanover County Schools during the design phase of this project. We would appreciate the opportunity to remain involved during the continuation of the design phase, and we would like to provide our services during construction phase operations as well to verify the assumptions of subsurface conditions made for this report. Should you have any questions concerning the information contained in this report, or if we can be of further assistance to you, please contact us.

Respectfully submitted,

ECS Southeast, LLP

Mike Ellis, E.I.
Project Manager
MEllis@ecslimited.com

Winslow Goins, PE
Principal Engineer
WGoins@ecslimited.com

NORTH CAROLINA PROFESSIONAL SEAL 013751 ENGINEER WINSLOW E. GOINS
10/22/18

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Appendix A – Drawings & Reports

- Site Location Diagram
- Exploration Location Diagram

Appendix B – Field Operations

- Reference Notes for Sounding Logs
- CPT Sounding Logs - S-1 and S-2
- Kessler Logs - K-1 through K-2
- Reference Notes for USCS Classification
- Hand Auger Boring Logs - K-1 through K-2

Appendix C – Supplemental Report Documents

- GBA Document

EXECUTIVE SUMMARY

The following summarizes the main findings of the exploration, particularly those that may have a cost impact on the planned development. Further, our principal foundation recommendations are summarized. Information gleaned from the executive summary should not be utilized in lieu of reading the entire geotechnical report.

- The geotechnical exploration performed for the planned development included two (2) electronic cone penetration test (CPT) soundings, two (2) hand auger borings with Kessler dynamic cone penetrometer (DCP) tests and one (1) asphalt core.

- It is important to note that the natural geology at the site has been modified in the past. Therefore, potential fill and unsuitable materials may be present at the site.

- The soundings generally encountered Silty and Clean SAND (SM, SP) with intermittent layer of Sandy SILT (ML) and Lean CLAY (CL) underlain by limestone.

- The proposed mobile class rooms can be supported with a shallow foundation having an allowable bearing pressure of 3,000 psf.

- Based on the results from the CPT Soundings, liquefiable soils are present on the site and the site has been given a seismic site class “F”.

- Based on the Kessler DCP results and soil types encountered, a CBR value of 10 has been selected to model the subgrade soils. A light duty pavement section may consist of at least 2 inches of surface mix asphalt overlying at least 6 inches of graded aggregate base. Similarly, a heavy duty pavement section may consist of at least 3 inches of surface mix asphalt overlying at least 8 inches of graded aggregate base.

1.0 INTRODUCTION

ECS' understanding of this project is based on information provided by Ms. Kimberly Gordon of New Hanover County Schools. The proposed project is located at the existing Trask Middle School at 2900 N. College Rd. in Wilmington, New Hanover County, North Carolina The proposed construction consists of adding mobile classrooms and a traffic circle along Danny Pence Drive. Additionally, a roundabout is proposed along Danny Pence Drive. This report contains the results of our subsurface explorations, site characterization, engineering analyses, and recommendations for the design of the proposed construction.

1.2 SCOPE OF SERVICES

To obtain the necessary geotechnical information required for design of the proposed construction, a total of two (2) CPT soundings, two (2) hand auger borings with Kessler DCP Tests and one (1) asphalt core were performed. One (1) CPT sounding was advanced to approximately 20 feet and sounding S-2 was advanced to a refusal depth of approximately 57 feet. Shear wave velocity tests were performed in sounding S-2 for seismic site classification and liquefaction potential.

This report discusses our exploratory and testing procedures, presents our findings and evaluations and includes the following:

- A brief review and description of our field test procedures and the results of testing conducted;
- A review of surface topographical features and site conditions;
- A review of area and site geologic conditions;
- A review of subsurface soil stratigraphy with pertinent available physical properties;
- Shallow foundation recommendations;
  - Allowable bearing pressure;
  - Settlement estimates (total and differential);
- Site development recommendations;
- Suitability of soils for use as fill material;
- Pavement design recommendations;
- Discussion of groundwater impact;
- Compaction recommendations;
- Special conditions encountered;
- Seismic site classification and liquefaction potential;
- Site vicinity map;
- Exploration location plan; and
- CPT sounding logs.

2.0 PROJECT INFORMATION

2.1 PROJECT LOCATION

The site is located at the existing Trask Middle School at 2900 N. College Rd. in Wilmington, New Hanover County, North Carolina. Figure 2.1.1 below shows an aerial image of the site.

Figure 2.1.1 Site Location

2.2 CURRENT SITE CONDITIONS

The project consists of the existing middle school, an associated parking lot with drive areas and a recreation area on the northeast portion of the property. The site is relatively level with approximate site elevations ranging from around 35 to 41 feet.

2.3 PROPOSED CONSTRUCTION

The project consists of adding mobile classrooms to the existing Trask Middle School and a traffic circle along Danny Pence Drive.

2.3.1 SITE CIVIL FEATURES

- Grading for the traffic circle and building pad

2.3.2 Structural Information/Loads

The following information structural loads were provided by Mr. Don Woods, P.E. of Woods Engineering, PA and were used for the purpose of the recommendations made in this report:

Table 2.3.2.1 Design Values

SUBJECT	DESIGN INFORMATION / EXPECTATIONS
Usage	Middle School
Column Loads	30 kips
Wall Loads	N/A
Finish Floor Elevation	±3 feet of existing grade (assumed)

3.0 FIELD EXPLORATION

3.1 FIELD EXPLORATION PROGRAM

The field exploration was planned with the objective of characterizing the project site in general geotechnical and geological terms and to evaluate subsequent field data to assist in the determination of geotechnical recommendations.

3.1.1 Cone Penetrometer Soundings

The subsurface conditions were explored by drilling two (2) electronic cone penetration test (CPT) soundings within the area of the proposed structures. Soundings S-1 was advanced to approximately 20 feet beneath existing grades and sounding S-2 was advanced to a refusal depth of approximately 57 feet.

Sounding locations were located in the field by an ECS representative using a hand held GPS unit. The approximate as-drilled sounding location is shown on the Exploration Location Diagram in Appendix A.

The CPT soundings were conducted in general accordance with ASTM D 5778. The cone used in the soundings has a tip area of 10 cm^2 and a sleeve area of 150 cm^2. The CPT soundings recorded tip resistance and sleeve friction measurements to assist in determining pertinent index and engineering properties of the site soils. The ratio of the sleeve friction to tip resistance is then used to aid in assessing the soil types through which the tip is advanced. The results of the CPT soundings are presented in Appendix B.

Within sounding S-2, seismic tests were performed at approximately three foot intervals to refusal to measure the shear wave velocity (v_s) of the subsurface materials to aid in assessing the dynamic response properties of the site subsurface materials. The seismic shear waves are generated by making impact with a 20-pound sledgehammer onto a steel beam. The impacts are initiated on the right and left sides of the CPT rig and the corresponding wave traces recorded on an oscilloscope are analyzed to determine the shear wave velocity of the tested material. The waves are measured with three geophones that are installed in the cone. The results of the CPT soundings are presented in Appendix B.

3.1.2 Hand Auger Borings Kessler Dynamic Cone Penetrometer Tests

A total of two (2) hand auger borings with Kessler Dynamic Cone Penetration (DCP) Tests were performed. In order to perform boring K-1, one (1) asphalt core was performed and the thickness of the asphalt and ABC was measured in the field prior to performing the Kessler DCP test. The cuttings from the hand auger borings were classified with the Unified Soil Classification System (USCS).

The Kessler DCP tests were performed in the proposed pavement areas. The Kessler DCP is used to estimate the strength characteristics of soils. The Kessler DCP was continuously driven approximately 3 feet below the existing ground surface. The Kessler DCP is driven into the soil by dropping a Single-Mass 17.6 lb Hammer from a height of 22.6 inches. The depth of cone penetration is measured at selected penetration or hammer drop intervals and the soil shear strength is reported in terms of the Kessler DCP index. The Kessler DCP index is based on the average penetration depth resulting from one blow of the 17.6 lb hammer. The Kessler DCP index can be correlated to CBR and modulus of rigidity.

The results from the Kessler DCP tests and the hand auger borings are presented in Appendix B.

3.2 REGIONAL/SITE GEOLOGY

It is important to note that the natural geology at the site has been modified in the past. Therefore, potential fill and unsuitable materials may be present at the site.

The site is located in the Coastal Plain Physiographic Province of North Carolina. The Coastal Plain is composed of seven terraces, each representing a former level of the Atlantic Ocean. Soils in this area generally consist of sedimentary materials transported from other areas by the ocean or rivers. These deposits vary in thickness from a thin veneer along the western edge of the region to more than 10,000 feet near the coast. The sedimentary deposits of the Coastal Plain rest upon consolidated rocks similar to those underlying the Piedmont and Mountain Physiographic Provinces. In general, shallow unconfined groundwater movement within the overlying soils is largely controlled by topographic gradients. Recharge occurs primarily by infiltration along higher elevations and typically discharges into streams or other surface water bodies. The elevation of the shallow water table is transient and can vary greatly with seasonal fluctuations in precipitation.

Based on the U.S. Geological Survey[1,2] the proposed construct site lies within the Peedee Formation (Kp). Soils in the Peedee Formation generally consist of alluvial sand and clay underlain by Limestone. An overview of the general site geology is illustrated in Figure 3.2.1 below.

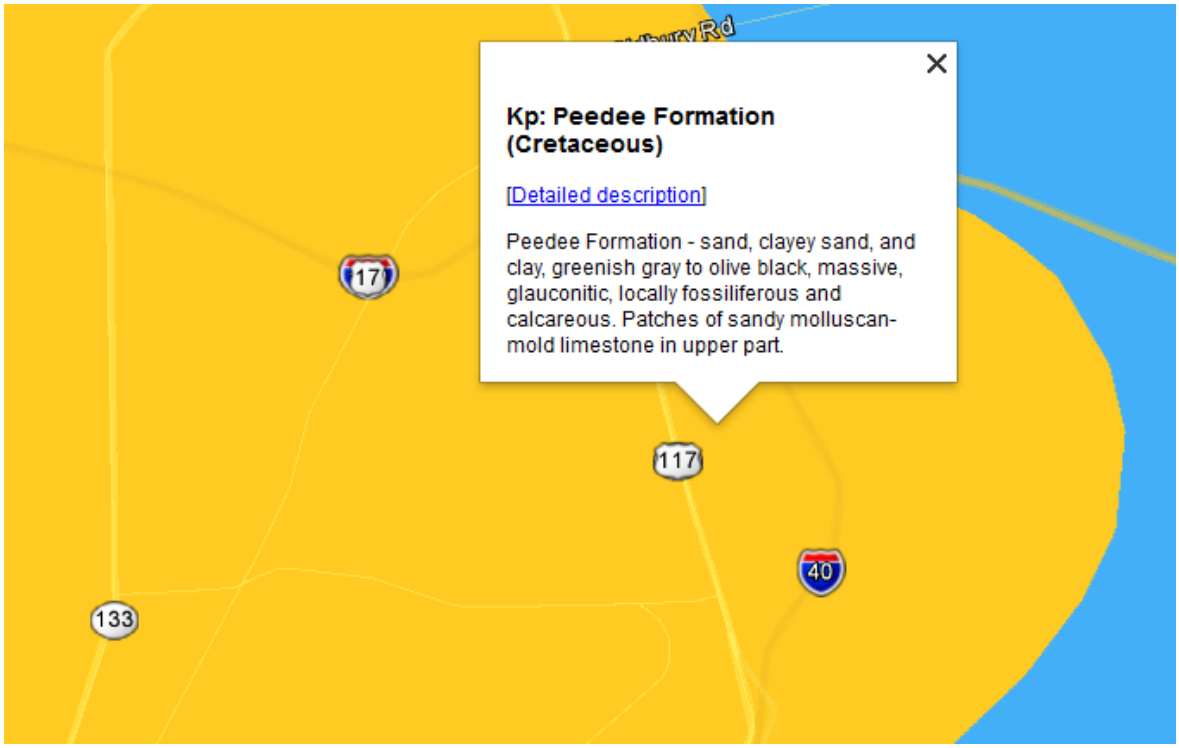


Figure 3.2.1

Geologic map for Figure 3.2.1 obtained from The North Carolina Dept. of Environment, Health, and Natural Resources, Division of Land Resources, NC Geological Survey, in cooperation with the NC Center for Geographic Information and Analysis, 1998, Geology - North Carolina (1:250,000), coverage data file geol250 and Google Earth.

[1] The North Carolina Dept. of Environment, Health, and Natural Resources, Division of Land Resources, NC Geological Survey, in cooperation with the NC Center for Geographic Information and Analysis, 1998, Geology - North Carolina (1:250,000), coverage data file geol250. The data represents the digital equivalent of the official State Geology map (1:500,000 scale), but was digitized from (1:250,000 scale) base maps.

[2] Rhodes, Thomas S., and Conrad, Stephen G., 1985, Geologic Map of North Carolina: Department of Natural Resources and Community Development, Division of Land Resources, and the NC Geological Survey, 1:500,000-scale, compiled by Brown, Philip M., et al, and Parker, John M. III, and in association with the State Geologic Map Advisory Committee.

3.3 SUBSURFACE CHARACTERIZATION

The subsurface conditions encountered were generally consistent with published geological mapping. The following sections provide generalized characterizations of the soil encountered during our subsurface exploration. For subsurface information at a specific location, refer to the CPT Sounding Logs and Hand Auger Logs in Appendix B.

Table 3.3.1 Subsurface Stratigraphy

Approximate Depth Range (ft)	Stratum	Description	Ranges of N*-Values[(1)] blows per foot (bpf)
0-0.5	N/A	Soundings and hand auger borings performed throughout contained an observed thickness of topsoil [(2)] ranging from around 2 to 6 inches. Deeper topsoil or organic laden soils and root balls associated with trees are most likely present in wet, poorly drained areas and potentially unexplored areas of the site.	N/A
0.5-56.5	I	Loose to Dense, Silty and Clean SAND (SM, SP) with intermittent layers of soft to stiff Sandy SILT (ML) and Lean CLAY (CL), Moist to Saturated	3 to 47
56.5-57.0	VI	LIMESTONE	50+

Notes: (1) Equivalent Corrected Standard Penetration Test Resistances
(2) Hand auger boring K-1 encountered approximately 1¼ inches of asphalt underlain by 7 inches of ABC stone.

3.4 GROUNDWATER OBSERVATIONS

Porewater pressure measurements were made at the sounding locations and hand auger borings during exploration as noted on the CPT sounding logs and hand auger logs in Appendix B. At the sounding locations, the apparent groundwater depths were observed at the time of drilling ranged from approximately 5.2 to 5.8 feet below the ground surface. The groundwater levels were tidally influenced by the Intracoastal Waterway and the Atlantic Ocean.

The highest groundwater observations are normally encountered in the late winter and early spring. Variations in the long-term water table may occur as a result of changes in precipitation, evaporation, surface water runoff, construction activities, and other factors not immediately apparent at the time of this exploration. If long term water levels are crucial to the development of this site, it would be prudent to verify water levels with the use of perforated pipes or piezometers.

4.0 DESIGN RECOMMENDATIONS

4.1 BUILDING DESIGN

The following sections provide recommendations for foundation, floor slab, and seismic design.

4.1.1 Shallow Foundations

Provided that the subgrades are prepared as discussed herein, the proposed structures can be supported by conventional shallow foundations. The design of the foundation shall utilize the following parameters:

Table 4.1.1.1 Foundation Design

Design Parameter	Column Footing
Net Allowable Bearing Pressure[1]	3,000 psf
Acceptable Bearing Soil Material	Stratum I
Minimum Width	30 inches
Minimum Footing Embedment Depth (below slab or finished grade)	12 inches
Estimated Total Settlement	1 inch
Estimated Differential Settlement	Less than 0.5 inches

1. Net allowable bearing pressure is the applied pressure in excess of the surrounding overburden soils above the base of the foundation.

It will be important to have the geotechnical engineer of record observe the foundation subgrade prior to placing foundation concrete; to confirm the bearing soils are what was anticipated. If soft or unsuitable soils are observed at the footing bearing elevations, the unsuitable soils should be undercut and removed. Any undercut should be backfilled with approved structural fill up to the original design bottom of footing elevation; the original footing shall be constructed on top of the structural fill. The depth and lateral extent of the undercut should be determined in the field during undercutting operation. An ECS representative must be on site during the undercut and backfill of the areas in order to provide a report stating that the repairs were in accordance with our recommendations.

4.1.2 Seismic Design Considerations and Liquefaction Potential

Seismic Site Classification: The International Building Code (IBC) 2009 requires site classification for seismic design based on the upper 100 feet of a soil profile. Three methods are utilized in classifying sites, namely the shear wave velocity (v_s) method; the unconfined compressive strength (s_u) method; and the Standard Penetration Resistance (N-value) method. The first method (shear wave velocity) was used in classifying this site.

The seismic site class definitions for the weighted average of shear wave velocity or SPT N-value in the upper 100 feet of the soil profile are shown in the following table:

Table 4.1.2.1: Seismic Site Classification

Site Class	Soil Profile Name	Shear Wave Velocity, Vs, (ft./s)	N value (bpf)
A	Hard Rock	Vs > 5,000 fps	N/A
B	Rock	2,500 < Vs ≤ 5,000 fps	N/A
C	Very dense soil and soft rock	1,200 < Vs ≤ 2,500 fps	>50
D	Stiff Soil Profile	600 ≤ Vs ≤ 1,200 fps	15 to 60
E	Soft Soil Profile	Vs < 600 fps	<15

The North Carolina Building Code (2009 International Building Code with North Carolina Amendments) requires that a seismic Site Class be assigned for new structures. The seismic Site Class for the site was determined by calculating a weighted average of the shear velocities of the overburden to the depth of rock/refusal. The CPT test data indicates that the existing natural, overburden soils at the site have shear velocities ranging from approximately 204 ft/sec to 1,323 ft/sec. The method for determining the weighted average value is presented in Section 1613.5.5 of the IBC 2009. The extrapolated weighted average value for the site is estimated to be around 744 ft/sec. However, due to liquefiable soils present on the site, the site has been given a Seismic Site Cass "F".

Liquefaction: The potential for liquefaction at the site is considered low based upon the CPT results and the liquefaction index procedure developed by Boulanger & Idriss (2014). Based on our CPT results and our evaluation using a site peak ground acceleration of 0.12, an earthquake event with a magnitude of 7.3 and procedures developed by Robertson (2009) and Boulanger & Idriss (2014), the liquefaction induced settlement at the subject site is estimated to be around 5 inches.

Section 20.3.1 of ASCE 7-10 classifies sites with the potential for liquefaction as Seismic Site Class "F". However, ASCE 7-10 allows the design spectral response accelerations for a site to be determined without regard to liquefaction provided the building has a fundamental period of less than or equal to 0.5 seconds and the risks of liquefaction are considered in design. We anticipate the proposed structure will meet these criteria; however, this should be confirmed by the Structural Engineer of Record.

Ground Motion Parameters: Provided the building has a fundamental period of less than or equal to 0.5 seconds and the risks of liquefaction are considered in design, the design spectral response acceleration parameters, for a Seismic site Class "D" are shown in Table 4.1.2.2. Mapped Reponses were estimated from the free Java Ground Motion Parameter Calculator available from the USGS website. Provided the risks of liquefaction are included in the design and the building has a fundamental period of less than or equal to 0.5 seconds, the site can use site

Table 4.1.2.2: Ground Motion Parameters (IBC 2009 Method)

Period (sec)	Mapped Spectral Response Accelerations (g)		Values of Site Coefficient for Site Class		Maximum Spectral Response Acceleration Adjusted for Site Class (g)		Design Spectral Response Acceleration (g)	
Reference	Figures 1613.5.1 (1) & (2)		Tables 1613.5.3 (1) & (2)		Eqs. 16-37 & 16-38		Eqs. 16-39 & 16-40	
0.2	S_S	0.281	F_a	1.575	$S_{MS}=F_aS_s$	0.442	$S_{DS}=2/3\ S_{MS}$	0.295
1.0	S_1	0.094	F_v	2.400	$S_{M1}=F_vS_1$	0.226	$S_{D1}=2/3\ S_{M1}$	0.151

The Site Class definition should not be confused with the Seismic Design Category designation, which the Structural Engineer typically assesses.

4.2.1 Pavement Sections

Subgrade Characteristics: Based on the results of our hand auger borings, it appears that the soils that will be exposed as pavement subgrades generally consist of SANDS (SM, SP). Based on the Kessler DCP results and soil types encountered, a CBR value of 10 has been selected to model the subgrade soils. The asphalt core at location K-1 along Danny Pence Drive had an asphalt thickness of approximately 1¼" and an ABC stone thickness of approximately 7 inches. The pavement design assumes subgrades consist of suitable materials evaluated by ECS and placed and compacted to at least 98 percent of the maximum dry density as determined by the standard Proctor test (ASTM D 698) in accordance with the project specifications.

Design Considerations: For the design and construction of exterior pavements, the subgrades should be prepared in strict accordance with the recommendations in the "Subgrade Preparation" and "Engineered Fill Placement" sections of this report. An important consideration with the design and construction of pavements is surface and subsurface drainage. Where standing water develops, either on the pavement surface or within the base course layer, softening of the subgrade and other problems related to the deterioration of the pavement can be expected. Furthermore, good drainage should minimize the possibility of the subgrade materials becoming saturated during the normal service period of the pavement.

Anticipated traffic conditions were not provided to ECS. However, based on our experience for light duty traffic for similar projects, a light duty pavement section may consist of at least 2 inches of surface mix asphalt overlying at least 6 inches of graded aggregate base. Similarly, a heavy duty pavement section may consist of at least 3 inches of surface mix asphalt overlying at least 8 inches of graded aggregate base.

The graded aggregate based course materials beneath pavements should be compacted to at least 98 percent of their modified Proctor maximum dry density (ASTM D 1557).

Regardless of the section and type of construction utilized, saturation of the subgrade materials and asphalt pavement areas results in a softening of the subgrade material and shortened life span for the pavement. Therefore, we recommend that both the surface and subsurface materials for the pavement be properly graded to enhance surface and subgrade drainage. By quickly removing surface and subsurface water, softening of the subgrade can be reduced and the performance of the parking area can be improved. Site preparation for the parking areas should be similar to that for the building area including stripping, proofrolling, and the placement of compacted structural fill.

5.0 SITE CONSTRUCTION RECOMMENDATIONS

5.1 SUBGRADE PREPARATION

5.1.1 Stripping and Grubbing

The subgrade preparation should consist of stripping all vegetation, rootmat, topsoil, existing fill, and any other soft or unsuitable materials from the 10-foot expanded building area and 5-foot expanded pavement areas. ECS should be called on to verify that topsoil and unsuitable surficial materials have been completely removed prior to the placement of structural fill or construction of the building and parking lot.

5.1.2 Proofrolling

After removing all unsuitable surface materials, cutting to the proposed grade, and prior to the placement of any structural fill or other construction materials, the exposed subgrade should be examined by the geotechnical engineer or authorized representative. The exposed subgrade should be thoroughly proofrolled with previously approved construction equipment having a minimum axle load of 10 tons (e.g. fully loaded tandem-axle dump truck). The areas subject to proofrolling should be traversed by the equipment in two perpendicular (orthogonal) directions with overlapping passes of the vehicle under the observation of the geotechnical engineer or authorized representative. This procedure is intended to assist in identifying any localized yielding materials. In the event that unstable or "pumping" subgrade is identified by the proofrolling, those areas should be marked for repair prior to the placement of any subsequent structural fill or other construction materials. Methods of repair of unstable subgrade, such as undercutting or moisture conditioning or chemical stabilization, should be discussed with the geotechnical engineer to determine the appropriate procedure with regard to the existing conditions causing the instability. Test pits may be excavated to explore the shallow subsurface materials in the area of the instability to help in determined the cause of the observed unstable materials and to assist in the evaluation of the appropriate remedial action to stabilize the subgrade. In place densification in the vicinity of K-3 may be necessary due to loose sand but should be determined in the field during the proofroll operations.

5.2 EARTHWORK OPERATIONS

5.2.1 Structural Fill Materials

Product Submittals: Prior to placement of structural fill, representative bulk samples (about 50 pounds) of on-site and off-site borrow should be submitted to ECS for laboratory testing, which will include Atterberg limits, natural moisture content, grain-size distribution, and moisture-density relationships for compaction. Import materials should be tested prior to being hauled to the site to determine if they meet project specifications.

Satisfactory Structural Fill Materials: Materials satisfactory for use as structural fill should consist of inorganic soils classified as SM, SC, SW, SP, GW, GP, GM, and GC, or a combination of these group symbols, per ASTM D 2487. Natural fine-grained soils classified as clays or silts (CL, ML) should generally not be considered for use as engineered fill, but may be evaluated by the geotechnical engineer to determine their suitability at the contractor's request. The materials should be free of organic matter, debris, and should contain no particle sizes greater than 4 inches in the largest dimension. Open graded materials, such as gravels (GW and GP), which contain void space in their mass should not be used in structural fills unless properly encapsulated with filter fabric. Suitable structural fill material should have the index properties shown in Table 5.2.1.1.

Table 5.2.1.1 Structural Fill Index Properties

Location with Respect to Final Grade	LL	PI	Max % Fines Passing # 200 Sieve
Building Area	20 max	9 max	20
Pavement Area	20 max	9 max	20

Unsatisfactory Materials: Materials that should not be used as engineered fill include topsoil, organic materials (OH, OL), and high plasticity clays and silts (CH, MH). Such materials removed during grading operations should be either stockpiled for later use in landscape fills, or placed in approved on or off-site disposal areas.

On-Site Borrow Suitability: Near surface SANDS (SM, SP) with a fines content less than 20 percent should be suitable for re-use as structural fill. Moisture conditioning should be anticipated for the soils to achieve the optimum moisture content for fill placement.

5.2.2 Compaction

Structural Fill Compaction: Structural fill within the expanded building, pavement, and embankment limits should be placed in maximum 8-inch loose lifts, moisture conditioned as necessary to within -3 and +3 % of the soil's optimum moisture content, and be compacted with suitable equipment to a dry density of at least 98% of the standard Proctor maximum dry density (ASTM D698). Beyond these areas, compaction of at least 95% should be achieved. ECS should be called on to document that proper fill compaction has been achieved.

Fill Compaction Control: The expanded limits of the proposed construction areas should be well defined, including the limits of the fill zones for the proposed construction area, at the time of fill placement. Grade controls should be maintained throughout the filling operations. All filling operations should be observed on a full-time basis by a qualified representative of the construction testing laboratory to determine that the minimum compaction requirements are being achieved. Field density testing of fills will be performed at the frequencies shown in Table 5.2.2.1, but not less than 1 test per lift.

Table 5.2.2.1 Frequency of Compaction Tests in Fill Areas

Location	Frequency of Tests
Building Area	1 test per 2,500 sq. ft.
Utility Trenches	1 test per 200 sq. ft.
Pavement Areas	1 test per 10,000 sq. ft.

Compaction Equipment: Compaction equipment suitable to the soil type being compacted should be used to compact the subgrades and fill materials. Sheepsfoot compaction equipment should be suitable for the fine-grained soils (Clays and Silts). A vibratory steel drum roller should be used for compaction of coarse-grained soils (Sands) as well as for sealing compacted surfaces.

Fill Placement Considerations: Fill materials should not be placed on frozen soils, on frost-heaved soils, and/or on excessively wet soils. Borrow fill materials should not contain frozen materials at the time of placement, and all frozen or frost-heaved soils should be removed prior to placement of structural fill or other fill soils and aggregates. Excessively wet soils or aggregates should be scarified, aerated, and moisture conditioned.

At the end of each work day, all fill areas should be graded to facilitate drainage of any precipitation and the surface should be sealed by use of a smooth-drum roller to limit infiltration of surface water. During placement and compaction of new fill at the beginning of each workday, the Contractor may need to scarify existing subgrades to a depth on the order of 4 inches so that a weak plane will not be formed between the new fill and the existing subgrade soils.

Drying and compaction of wet soils is typically difficult during the cold, winter months. Accordingly, earthwork should be performed during the warmer, drier times of the year, if practical. Proper drainage should be maintained during the earthwork phases of construction to prevent ponding of water which has a tendency to degrade subgrade soils.

Where fill materials will be placed to widen existing embankment fills, or placed up against sloping ground, the soil subgrade should be scarified and the new fill benched or keyed into the existing material. Fill material should be placed in horizontal lifts. In confined areas such as utility trenches, portable compaction equipment and thin lifts of 3 inches to 4 inches may be required to achieve specified degrees of compaction.

We recommend that the grading contractor have equipment on site during earthwork for both drying and wetting fill soils. We do not anticipate significant problems in controlling moisture within the fill during dry weather, but moisture control may be difficult during winter months or extended periods of rain. The control of moisture content of higher plasticity soils is difficult when these soils become wet. Further, such soils are easily degraded by construction traffic when the moisture content is elevated.

5.3 FOUNDATION OBSERVATIONS

Protection of Foundation Excavations: Exposure to the environment may weaken the soils at the footing bearing level if the foundation excavations remain open for too long a time. Therefore, foundation concrete should be placed the same day that excavations are made. If the bearing soils are softened by surface water intrusion or exposure, the softened soils must be removed from the foundation excavation bottom immediately prior to placement of concrete. If the excavation must remain open overnight, or if rainfall becomes imminent while the bearing soils are exposed, a 2 to 3-inch thick “mud mat” of “lean” concrete should be placed on the bearing soils before the placement of reinforcing steel.

Footing Subgrade Observations: The preparation of fill subgrades, as well as proposed building subgrades, should be observed on a full-time basis by ECS personnel. These observations should be performed by an experienced geotechnical engineer or qualified person to ensure that unsuitable materials have been removed and that the prepared subgrade meets project requirements for support of the proposed construction and/or fills.

5.4 UTILITY INSTALLATIONS

Utility Subgrades: Most of the soils encountered in our exploration are expected to be suitable for support of utility pipes. The pipe subgrade should be observed and probed for stability by ECS to evaluate the suitability of the materials encountered. Any loose or unsuitable materials encountered at the utility pipe subgrade elevation should be removed and replaced with suitable compacted Structural Fill or pipe bedding material.

Utility Backfilling: The granular bedding material should be at least 4 inches thick, but not less than that specified by the project drawings and specifications. Fill placed for support of the utilities, as well as backfill over the utilities, should satisfy the requirements for structural fill given in this report. Compacted backfill should be free of topsoil, roots, ice, or any other material designated by ECS as unsuitable. The backfill should be moisture conditioned, placed, and compacted in accordance with the recommendations of this report.

Utility Excavation Dewatering: It is possible that groundwater will be encountered by utility excavations which extend below existing grades. It is expected that removal of groundwater which seeps into excavations could be accomplished by pumping from sumps excavated in the trench bottom and which are backfilled with DOT Size No. 57 Stone or open graded bedding material. Should water conditions beyond the capability of sump pumping be encountered, the contractor should submit a dewatering plan in accordance with project specifications.

Excavation Safety: All excavations and slopes should be made and maintained in accordance with OSHA excavation safety standards. The contractor is solely responsible for designing and constructing stable, temporary excavations and slopes and should shore, slope, or bench the sides of the excavations and slopes as required to maintain stability of both the excavation sides and bottom. The contractor's responsible person, as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations. ECS is providing this information solely as a service to our client. ECS is not assuming responsibility for construction site safety or the contractor's activities; such responsibility is not being implied and should not be inferred.

5.5 GENERAL CONSTRUCTION CONSIDERATIONS

Moisture Conditioning: During the cooler and wetter periods of the year, delays and additional costs should be anticipated. At these times, reduction of soil moisture may need to be accomplished by a combination of mechanical manipulation and the use of chemical additives, such as lime or cement, in order to lower moisture contents to levels appropriate for compaction. Alternatively, during the drier times of the year, such as the summer months, moisture may need to be added to the soil to provide adequate moisture for successful compaction according to the project requirements.

Subgrade Protection: Measures should also be taken to limit site disturbance, especially from rubber-tired heavy construction equipment, and to control and remove surface water from development areas. It would be advisable to designate a haul road and construction staging area to limit the areas of disturbance and to prevent construction traffic from excessively degrading sensitive subgrade soils and existing pavement areas. Haul roads and construction staging areas could be covered with excess depths of aggregate to protect those subgrades. The aggregate can later be removed and used in pavement areas.

Surface Drainage: Surface drainage conditions should be properly maintained. Surface water should be directed away from the construction area, and the work area should be sloped away from the construction area at a gradient of 1 percent or greater to reduce the potential of ponding water and the subsequent saturation of the surface soils. At the end of each work day, the subgrade soils should be sealed by rolling the surface with a smooth drum roller to minimize infiltration of surface water.

Excavation Safety: Cuts or excavations associated with utility excavations may require forming or bracing, slope flattening, or other physical measures to control sloughing and/or prevent slope failures. Contractors should be familiar with applicable OSHA codes to ensure that adequate protection of the excavations and trench walls is provided.

Excavation Considerations: Based on the results of the soundings, we expect that the natural Coastal Plain soils encountered on this site can be excavated with conventional earth moving equipment such as loaders, bulldozers, rubber tired backhoes, etc.

The site soils are OSHA Type C soils for the purpose of temporary excavation support. Excavations should be constructed in compliance with current OSHA standards for excavation and trenching safety. Excavations should be observed by a "competent person," as defined by OSHA, who should evaluate the specific soil type and other conditions, which may control the excavation side slopes or the need for shoring or bracing. Regardless, site safety shall be the sole responsibility of the contractor and their subcontractors. Exposed earth slopes shall be protected during periods of inclement weather.

Erosion Control: The surface soils may be erodible. Therefore, the contractor should provide and maintain good site drainage during earthwork operations to maintain the integrity of the surface soils. All erosion and sedimentation controls should be in accordance with sound engineering practices and local requirements.

6.0 CLOSING

ECS has prepared this report of findings, evaluations, and recommendations to guide geotechnical-related design and construction aspects of the project.

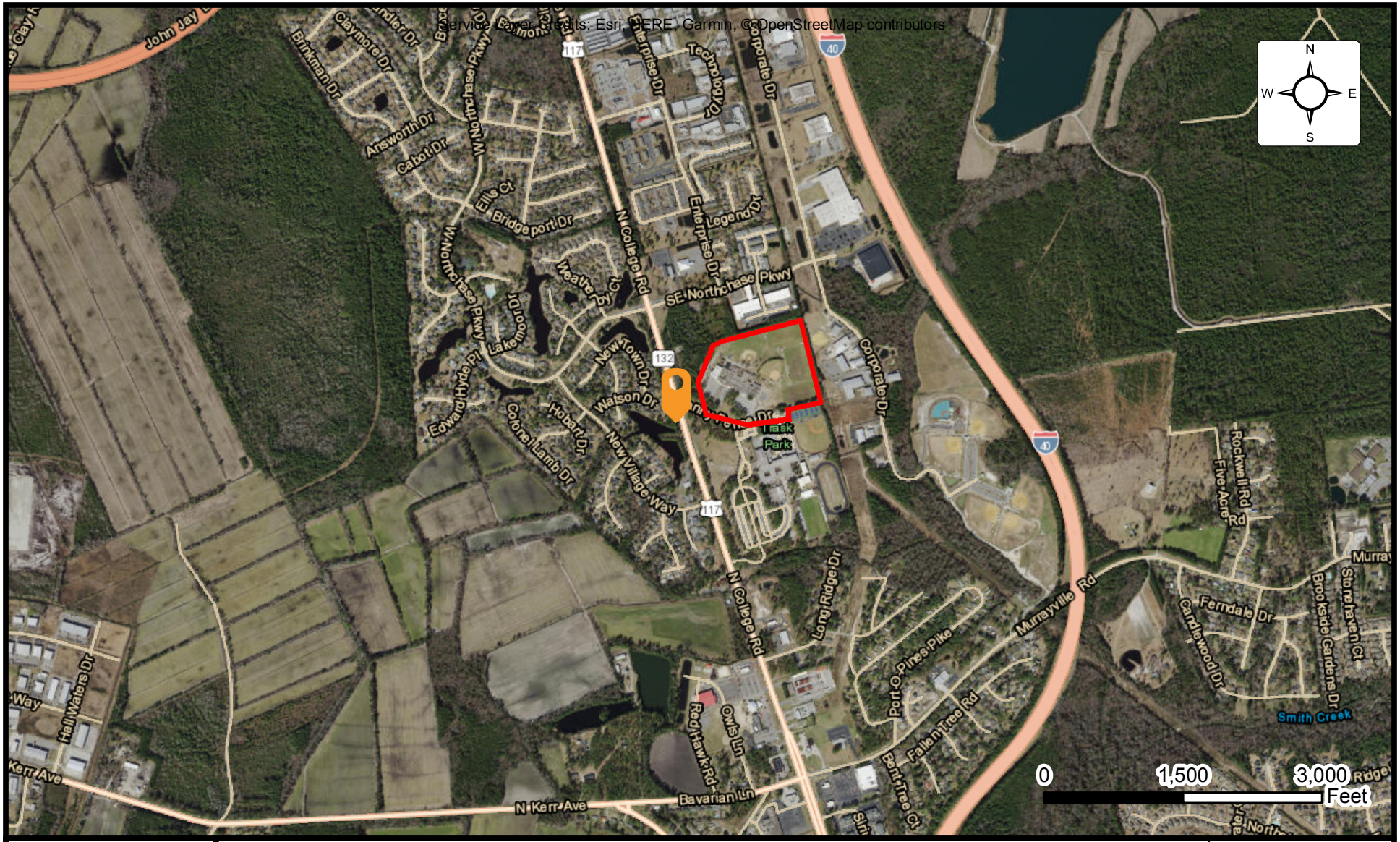
The description of the proposed project is based on information provided to ECS by New Hanover County Schools. If any of this information is inaccurate, either due to our interpretation of the documents provided or site or design changes that may occur later, ECS should be contacted immediately so that we can review the report in light of the changes and provide additional or alternate recommendations as may be required to reflect the proposed construction.

We recommend that ECS be allowed to review the project's plans and specifications pertaining to our work so that we may ascertain consistency of those plans/specifications with the intent of the geotechnical report.

Field observations, monitoring, and quality assurance testing during earthwork and foundation installation are an extension of and integral to the geotechnical design recommendation. We recommend that the owner retain these quality assurance services and that ECS be allowed to continue our involvement throughout these critical phases of construction to provide general consultation as issues arise. ECS is not responsible for the conclusions, opinions, or recommendations of others based on the data in this report.

APPENDIX A – Drawings & Reports

Site Location Diagram
Exploration Location Diagram



Site Location Diagram
TRASK MIDDLE SCHOOL RENOVATIONS

2900 N COLLEGE RD, WILMINGTON, NORTH CAROLINA

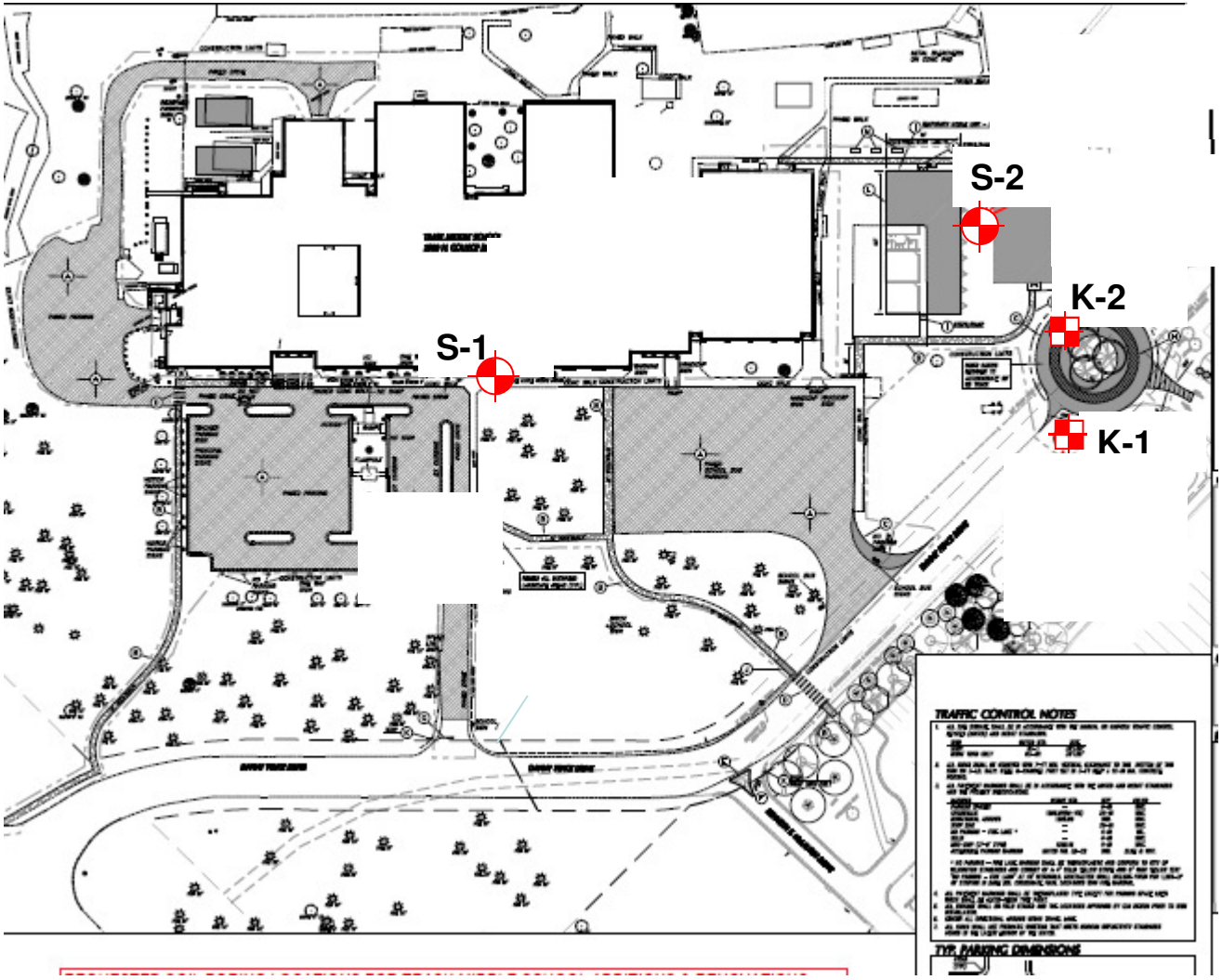
ENGINEER	WEG
SCALE	1 " = 1500 '
PROJECT NO.	22:27176
SHEET	1 OF 2
DATE	10/12/2018

EXPLORATION LOCATION DIAGRAM

Trask Middle School Renovations

Wilmington, North Carolina

REFERENCE	Sawyer Sherwood Sheet C2.0
ENGINEER	WEG
DRAFTING	MME
SCALE	NTS
PROJECT NO..	22:27176
SHEET	2 of 2
DATE	10/12/2018



DENOTES APPROXIMATE LOCATION OF CPT SOUNDING

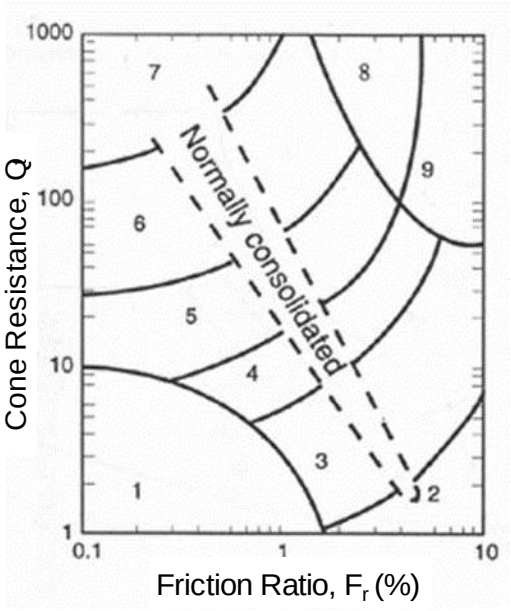
DENOTES APPROXIMATE LOCATION OF HAND AUGER BORING WITH KESSLER DCP TESTS

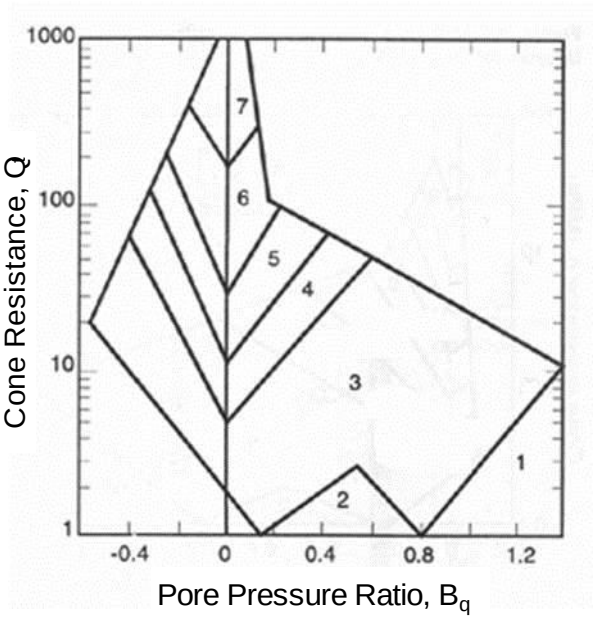
APPENDIX B – Field Operations

Reference Notes for Sounding Logs
CPT Sounding Logs -S-1 through S-2
Kessler Logs - K-1 through K-2
Reference Notes for USCS Classification
Hand Auger Boring Logs - K-1 through K-2

REFERENCE NOTES FOR CONE PENETRATION TEST (CPT) SOUNDINGS

In the CPT sounding procedure (ASTM-D-5778), an electronically instrumented cone penetrometer is hydraulically advanced through soil to measure point resistance (q_c), pore water pressure (u_2), and sleeve friction (f_s). These values are recorded continuously as the cone is pushed to the desired depth. CPT data is corrected for depth and used to estimate soil classifications and intrinsic soil parameters such as angle of internal friction, preconsolidation pressure, and undrained shear strength. The graphs below represent one of the accepted methods of CPT soil behavior classification (Robertson, 1990).





1. Sensitive, Fine Grained
2. Organic Soils-Peats
3. Clays; Clay to Silty Clay
4. Clayey Silt to Silty Clay
5. Silty Sand to Sandy Silt
6. Clean Sands to Silty Sands
7. Gravelly Sand to Sand
8. Very Stiff Sand to Clayey Sand
9. Very Stiff Fine Grained

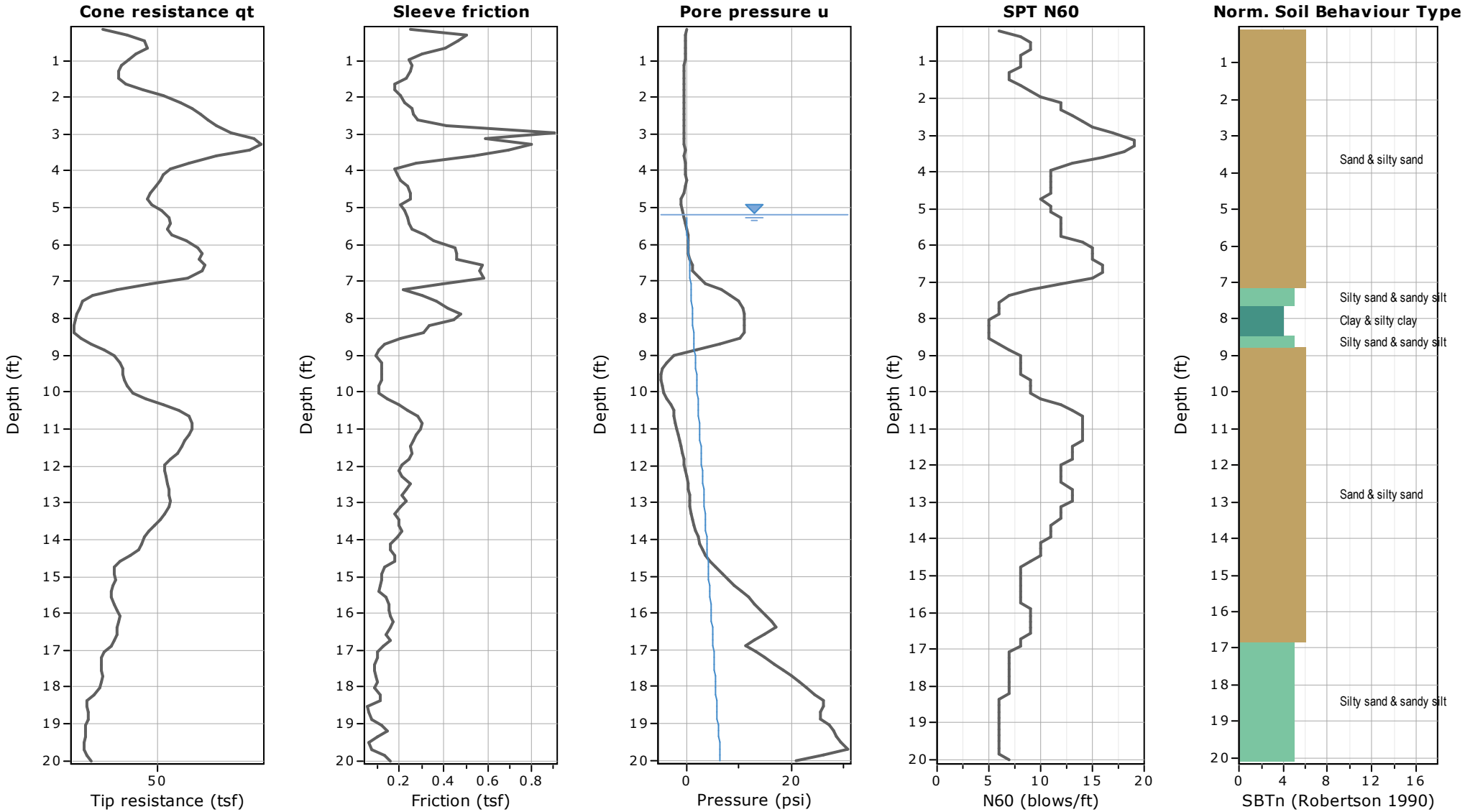
The following table presents a correlation of corrected cone tip resistance (q_c) to soil consistency or relative density:

SAND		**SILT/CLAY**	
Corrected Cone Tip Resistance (q_c) (tsf)	**Relative Density**	**Corrected Cone Tip Resistance (q_c) (tsf)**	**Relative Density**
<20	Very Loose	<5	Very Soft
20-40	Loose	5-10	Soft
40-120	Medium Dense	10-15	Firm
		15-30	Stiff
120-200	Dense	30-45	Very Stiff
>200	Very Dense	45-60	Hard
		>60	Very Hard

ECS Southeast, LLP
6714 Netherlands Drive
Wilmington, North Carolina 28405
ECS Project Number 22:27155

Project: **Trask Middle School Renovations**
Location: **2900 N College Rd, Wilmington, NC**

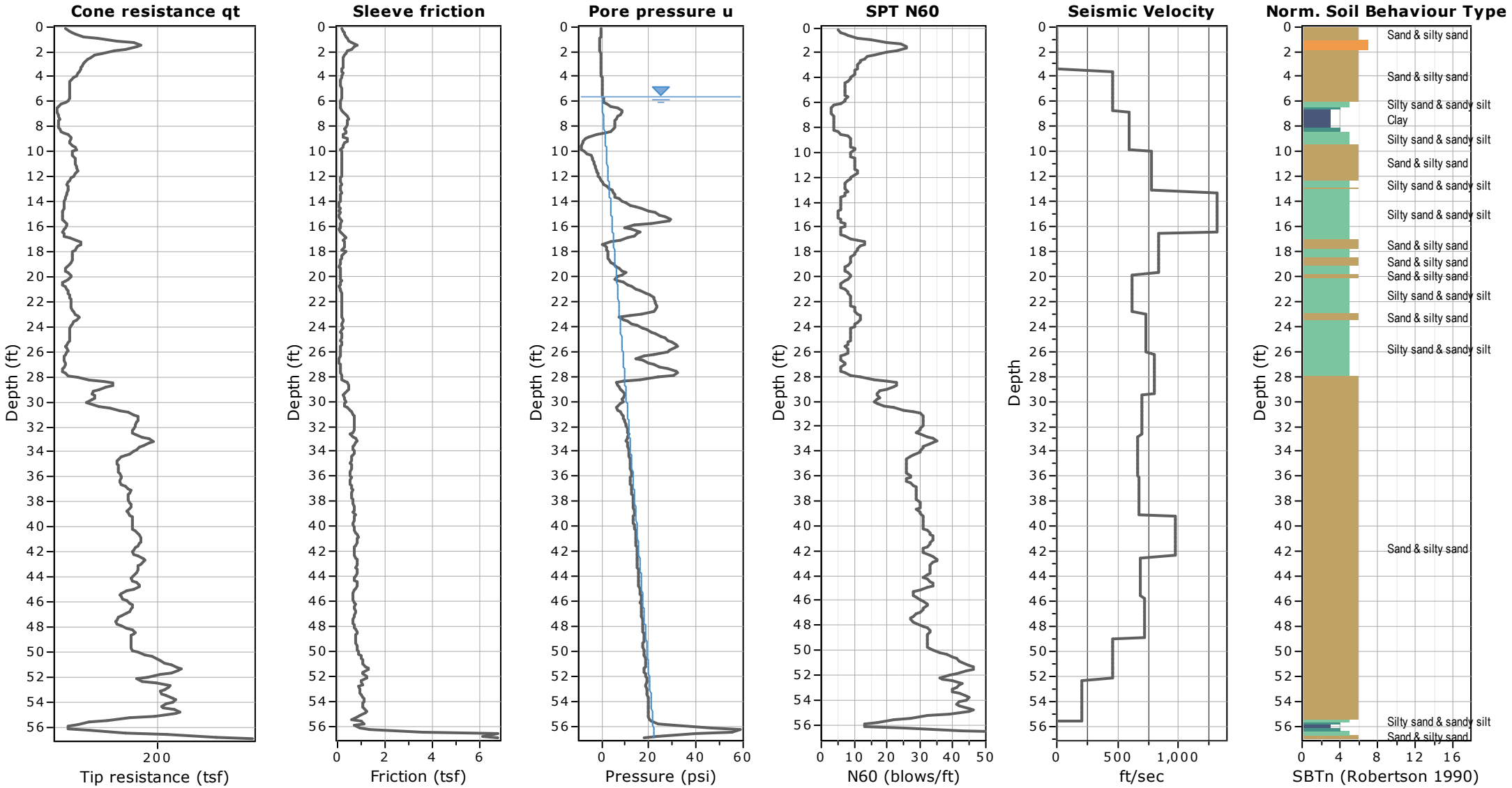
CPT: S-1
Total depth: 20.01 ft



ECS Southeast, LLP
6714 Netherlands Drive
Wilmington, North Carolina 28405
ECS Project Number 22:27155

Project: **Trask Middle School Renovations**
Location: **2900 N College Rd, Wilmington, NC**

CPT: S-2
Total depth: 56.92 ft



DCP TEST DATA

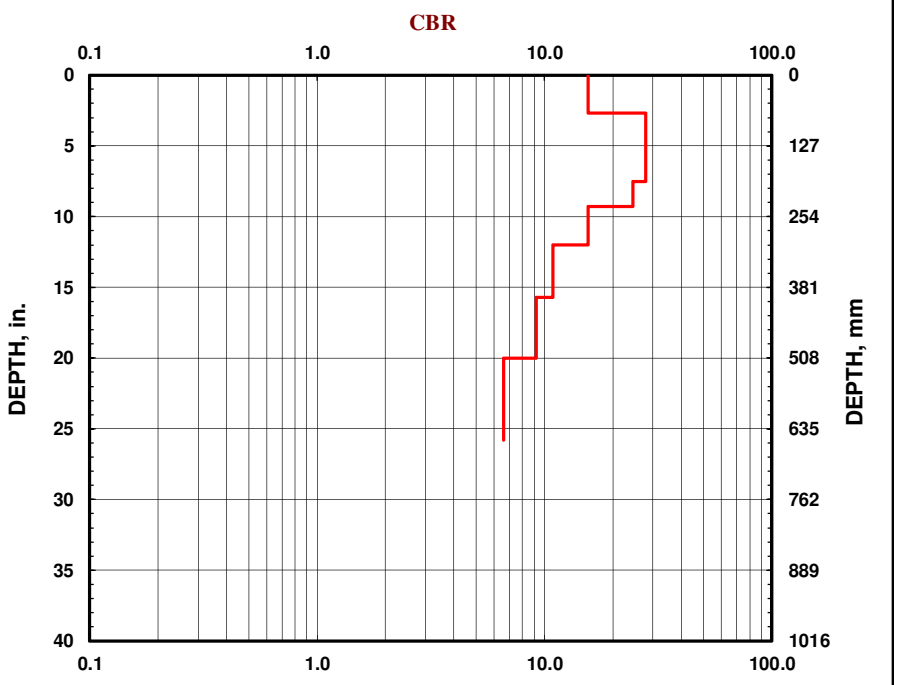
Project: Trask Middle School Renovations **Date:** 15-Oct-18

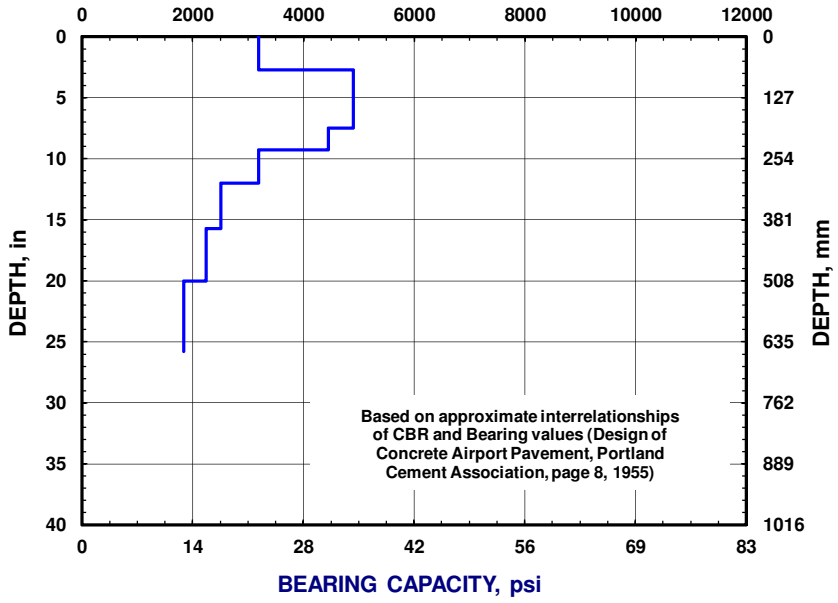
Location: K-1 **Soil Type(s):** SAND (SP, SM)

Hammer
- ○ 10.1 lbs.
- ◉ 17.6 lbs.
- ○ Both hammers used

Soil Type
- ○ CH
- ○ CL
- ◉ All other soils

No. of Blows	Cumulative Penetration (mm)	Type of Hammer
0	0	1
5	69	1
5	109	1
5	150	1
5	191	1
5	236	1
5	305	1
5	399	1
5	508	1
5	655	1





DCP TEST DATA

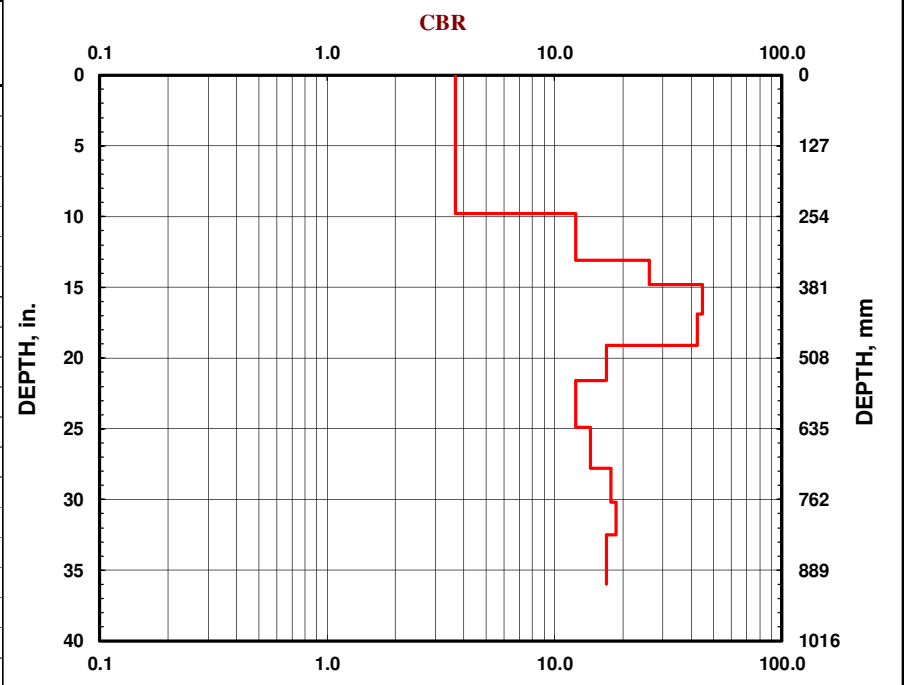
Project: Trask Middle School Renovations **Date:** 15-Oct-18

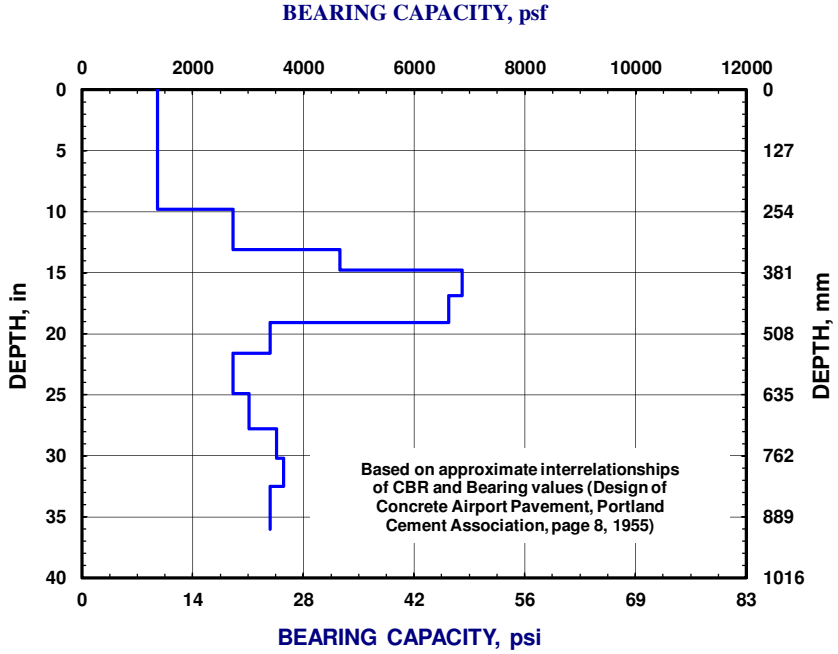
Location: K-2 **Soil Type(s):** SAND (SP, SM)

Hammer
- ○ 10.1 lbs.
- ◉ 17.6 lbs.
- ○ Both hammers used

Soil Type
- ○ CH
- ○ CL
- ◉ All other soils

No. of Blows	Cumulative Penetration (mm)	Type of Hammer
0	0	1
5	249	1
5	333	1
5	376	1
10	429	1
10	485	1
5	549	1
5	632	1
5	706	1
5	767	1
5	826	1
5	889	1
2	914	1

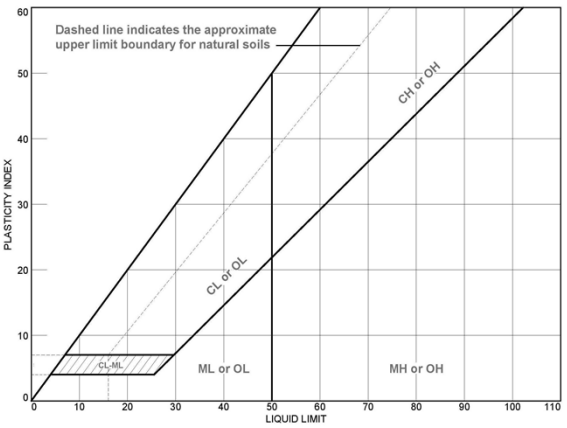




Unified Soil Classification System
(ASTM Designation D-2487)

Major Division			Group Symbol	Typical Names	Classification on basis of percentage of fines	Classification Criteria
Coarse-grained soils More than 50% retained on No. 200 sieve	Gravels More than 50% of coarse fraction retained on No. 4 sieve		GW	Well-graded gravels and gravel-sand mixtures, little or no fines	GW, GP, SW, SP GM, GC, SM, SC Borderline classification requiring use of dual symbol	$C_u = D_{60}/D_{10}$ Greater than 4 $C_z = (D_{30})^2/(D_{10}xD_{60})$ Between 1 and 3
			GP	Poorly graded gravels and gravel-sand mixtures, little or no fines		Not meeting both criteria for GW
			GM	Silty gravels, gravel-sand-silt mixtures		Atterberg limits plot below "A" line or plasticity index less than 4
			GC	Clayey gravels, gravel-sand-clay mixtures		Atterberg limits plot above "A" line and plasticity index greater than 7
	Sands More than 50% of coarse fraction passes No. 4 sieve		SW	Well-graded sands and gravelly sands, little or no fines	Less than 5% Pass No. 200 sieve More than 12% Pass No. 200 sieve 5% to 12% Pass No. 200 sieve	$C_u = D_{60}/D_{10}$ Greater than 6 $C_z = (D_{30})^2/(D_{10}xD_{60})$ Between 1 and 3
			SP	Poorly graded sands and gravelly sands, little or no fines		Not meeting both criteria for SW
			SM	Silty sands, sand-silt mixtures		Atterberg limits plot below "A" line or plasticity index less than 4
			SC	Clayey sands, sand-clay mixtures		Atterberg limits plot above "A" line and plasticity index greater than 7
Fine-grained soils 50% or more passing No. 200 sieve	Silts and Clays Liquid limit 50% or less		ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands		
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays		
			OL	Organic silts and organic silty clays of low plasticity		
	Silts and Clays Liquid limit greater than 50%		MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts		
			CH	Inorganic clays of high plasticitiy, fat clays		
			OH	Organic clays of medium to high plasticity		
Highly organic soils			Pt	Peat, muck and other highly organic soils		Fibrous organic matter; will char, burn, or glow

Note: U-line represents approximate upper limit of LL and PI combinations for natural soils (empirically determined). ASTM-D2487.



Plasticity chart for the classification of fine-grained soils.
Tests made on fraction finer than No. 40 sieve

UNIFIED SOIL CLASSIFICATION SYSTEM

CLIENT	Job #:	BORING #	SHEET
New Hanover County Schools	22:27176	K-1	1 OF 1

PROJECT NAME: Trask Middle School Renovations

ARCHITECT-ENGINEER:

SITE LOCATION: 2900 N. College Rd., Wilmington, NC

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT^2

ROCK QUALITY DESIGNATION & RECOVERY
RQD% – — – REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL (ENGLISH UNITS)	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					ASPHALT [1 1/4"] ABC STONE [7"]			
1					(SP) FINE TO MEDIUM SAND, gray/white, moist			
2								
3					(SM) SILTY FINE TO MEDIUM SAND, dark gray, moist, thin hard pan layer around 2.5'			
4					END OF BORING @ 4'			
5								
6								

BOTTOM OF CASING | LOSS OF CIRCULATION (100%)

SURFACE ELEVATION

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS☐ WD☐	BORING STARTED 10/15/18	CAVE IN DEPTH
WL(SHW) WL(ACR)	BORING COMPLETED 10/15/18	HAMMER TYPE
WL	RIG FOREMAN	DRILLING METHOD Hand Auger

CLIENT	Job #:	BORING #	SHEET
New Hanover County Schools	22:27176	K-2	1 OF 1

PROJECT NAME: Trask Middle School Renovations

ARCHITECT-ENGINEER:

SITE LOCATION: 2900 N. College Rd., Wilmington, NC

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT^2

ROCK QUALITY DESIGNATION & RECOVERY
RQD% – — – REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION (100%)

SURFACE ELEVATION

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					TOPSOIL/ROOTMAT [6"]			
1					(SP) FINE TO MEDIUM SAND, gray, moist			
2					(SM) SILTY FINE TO MEDIUM SAND, brown/ dark gray/tan, moist to wet, thin hard pan layer at around 1.5'			
4					END OF BORING @ 4'			
5								
6								

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS☐ WD☐	BORING STARTED 10/15/18	CAVE IN DEPTH
WL(SHW) WL(ACR)	BORING COMPLETED 10/15/18	HAMMER TYPE
WL	RIG FOREMAN	DRILLING METHOD Hand Auger

APPENDIX C – Supplemental Report Documents

GBA Document

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.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, clients can benefit from a lowered exposure to the subsurface problems that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed below, contact your GBA-member geotechnical engineer. Active involvement in 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.

Geotechnical-Engineering 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 given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. *Those who rely on a geotechnical-engineering report prepared for a different client can be seriously misled*. No one except authorized client representatives 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 this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read it *in its entirety*. Do not rely on an executive summary. Do not read selected elements only. *Read this report in full.*

You Need to Inform Your Geotechnical Engineer about Change

Your geotechnical engineer considered unique, project-specific factors when designing the study behind this report and developing the confirmation-dependent recommendations the report conveys. A few typical factors include:

- the client's goals, objectives, budget, schedule, and risk-management preferences;
- the general nature of the structure involved, its size, configuration, and performance criteria;
- the structure's location and orientation on the site; and
- other planned or existing site improvements, such as retaining walls, access roads, parking lots, and underground utilities.

Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- 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. *The geotechnical engineer who prepared this report cannot accept responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.*

This Report May Not Be Reliable

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, that it could be unwise to rely on a geotechnical-engineering report whose reliability may have been affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If your geotechnical engineer has not indicated an "apply-by" date on the report, ask what it should be*, and, in general, *if you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying it. A minor amount of additional testing or analysis – if any is required at all – could prevent major problems.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface through various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing were performed*. The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgment to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team from project start to project finish, so the individual can provide informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, *they are not final*, because the geotechnical engineer who developed them relied heavily on judgment and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* revealed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a full-time member of the design team, to:

- confer with other design-team members,
- help develop specifications,
- review pertinent elements of other design professionals' plans and specifications, and
- be on hand quickly whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction observation.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for informational purposes only*. To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report, but they may rely on the factual data relative to the specific times, locations, and depths/elevations referenced. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include 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.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering 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 subsurface environmental problems have led to project failures*. If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. As a general rule, *do not rely on an environmental report prepared for a different client, site, or project, or that is more than six months old.*

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, none of the engineer's services were designed, conducted, or intended to prevent uncontrolled migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration.*** Confront the risk of moisture infiltration by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

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REI ENGINEERS

704 Cromwell Drive, Suite A, Greenville, NC 27858
PHONE 252.752.1992 FAX 252.752.1985

Roof Evaluation and Moisture Survey

Emma B. Trask Middle School
2900 N. College Road, Wilmington, NC 28405

Client: New Hanover County Schools

Representative: **Ms. Kimberly Gordon**

Consultants: REI Engineers
NC Engineers COA # C-1520

V. Kevin Burch, PE
Vice President
704 Cromwell Drive, Suite A
Greenville, NC 27858
(252) 752-1992
(252) 752-1985 Fax

NORTH CAROLINA PROFESSIONAL SEAL 022410 ENGINEER V. KEVIN BURCH
4-30-18

Date: 4/30/18

Roof Moisture Survey
Trask Middle School

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I. AUTHORIZATION

This report presents the findings of a roof moisture survey conducted at Trask Middle School 2900 N. College Road, Wilmington, NC 28405. The moisture survey was authorized by Ms. Kimberly Gordon through NHCS Purchase Order 3299, dated April 17, 2018.

II. PURPOSE

The purpose of the survey is to:

- Determine if moisture is present within the existing roof system utilizing a Milwaukee M12 B1 infrared camera to identify areas with significant heat differentials. These differentials, or anomalies, can be caused by wet insulation.
- Confirm IR camera readings with a Tramex Leak Seeker (Tramex) and a Delmhorst BD10 Moisture Meter (Delmhorst).
- Compile a written report along with a roof plan drawing detailing the findings of the survey.

III. SCOPE

The scope of the work performed is outlined in REI Proposal No. P18GVL-018 dated April 12, 2018.

IV. WARRANTY NOTICE

The findings and recommendations submitted for the subject roof are based upon available information furnished by participating personnel, as well as investigative test procedures. The observations and recommendations presented in this report are time dependent and conditions will change. REI warrants these findings have been presented after being prepared in accordance with generally accepted practices of RCI, Inc., The Institute for Roofing, Waterproofing and Building Envelope Professionals. No other warranty is expressed or implied. This report has been prepared for the exclusive use of New Hanover County Schools and its agents.

V. DESCRIPTION AND BACKGROUND

This building consists of numerous roof areas of various sizes, roof types, and elevations. The scope of work for this moisture survey was performed on all roof sectors of the school totaling approximately 92,000 square feet. Refer to the Roof Plan included at the end of this report for facility orientation and the locations of the referenced roof area designations.

The assessment was completed just after dark on 4/19/2018 by Kevin Burch, PE and Stuart Driscoll, Senior Project Manager of REI Engineers. The weather was clear with temperatures ranging from 60 degrees F. REI Engineers is familiar with the facility from past roof condition surveys and maintenance projects.

The date of the original construction of this facility is reported to be circa 1976. The roof assemblies consist of two systems. The predominant roof system, which seems to be tied to the original construction is:

- Gravel Surface
- Multi-Ply Built Up Roof
- Perlite Insulation
- Rigid Insulation
- Steel Deck

Later building additions consists of:

- EPDM Roof Membrane (With coatings)
- Rigid Insulation
- Steel Deck

The total roof areas included in this project measure approximately 92,000 square feet.

VI. VISUAL OBSERVATIONS

A hand-held infrared camera was used to examine the surface of the roof.

Typical roof-top surveys are conducted after sunset, during cool evening hours, to eliminate the possibility of error introduced by solar reflection. After a clear, sunny day, the roof system acts like a large thermal collector. Wet insulation areas and areas with collected moisture absorb and retain heat better than dry areas. During the hours after sunset, dry areas cool more rapidly than do the wet areas.

The infrared camera reads the infrared heat energy radiation, which is invisible to the naked eye, and converts this into visible images on the camera screen. The camera detects temperature differences of less than 0.251°C. As a result, areas of high temperature differential are identified. These areas are outlined on the attached roof plan.

Verification was made in random locations with the Delmhorst moisture probe and test cut sampling.

A. Sectors A1, A8, A9

Scanning the above roof sectors identified limited anomalies, comprising little square footage compared to the size of each roof sector. No other roof sectors produced anomalies.

VII. PHOTOGRAPHS

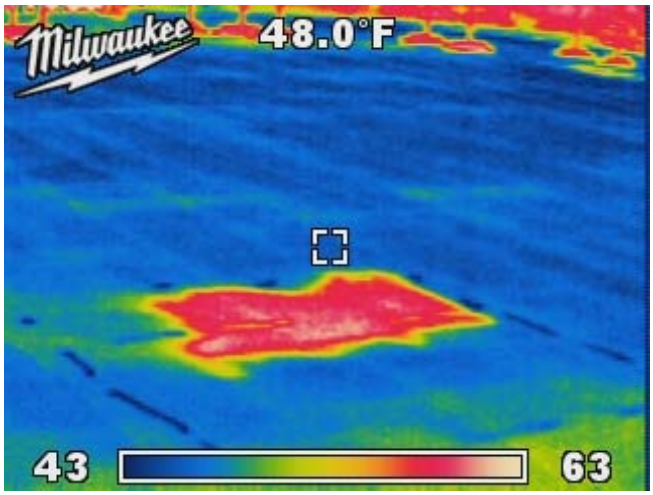


Photo 1 IR Photo of suspect wet area. Centered on Roof Sector A9.

Photo 2 Daylight photo of suspect wet area seen in Photo 1.

Photo 3 Meter confirmation of anomolie shown in photo #1.

Photo 4 Anomilie at parapet of Sector A8.

Photo 5. Meter did not confirm moisture in the roof @ Photo 4.

Photo 6. Anomolie scanned on Roof Sector A1.

Photo 7. Meter showing minor moisture content from Photo 6.

VIII. CORE CUT AND PROBE RESULTS

A. Core Cut and/or Probe Results (locations on attached Roof Plan):

1. Core Cut and/or Moisture Probe No. 1:
   Moisture meter indicated presence of moisture – See Photo No. 1

2. Core Cut and/or Moisture Probe No. 3:
   Moisture meter indicated minor presence of moisture - See Photo No. 7.

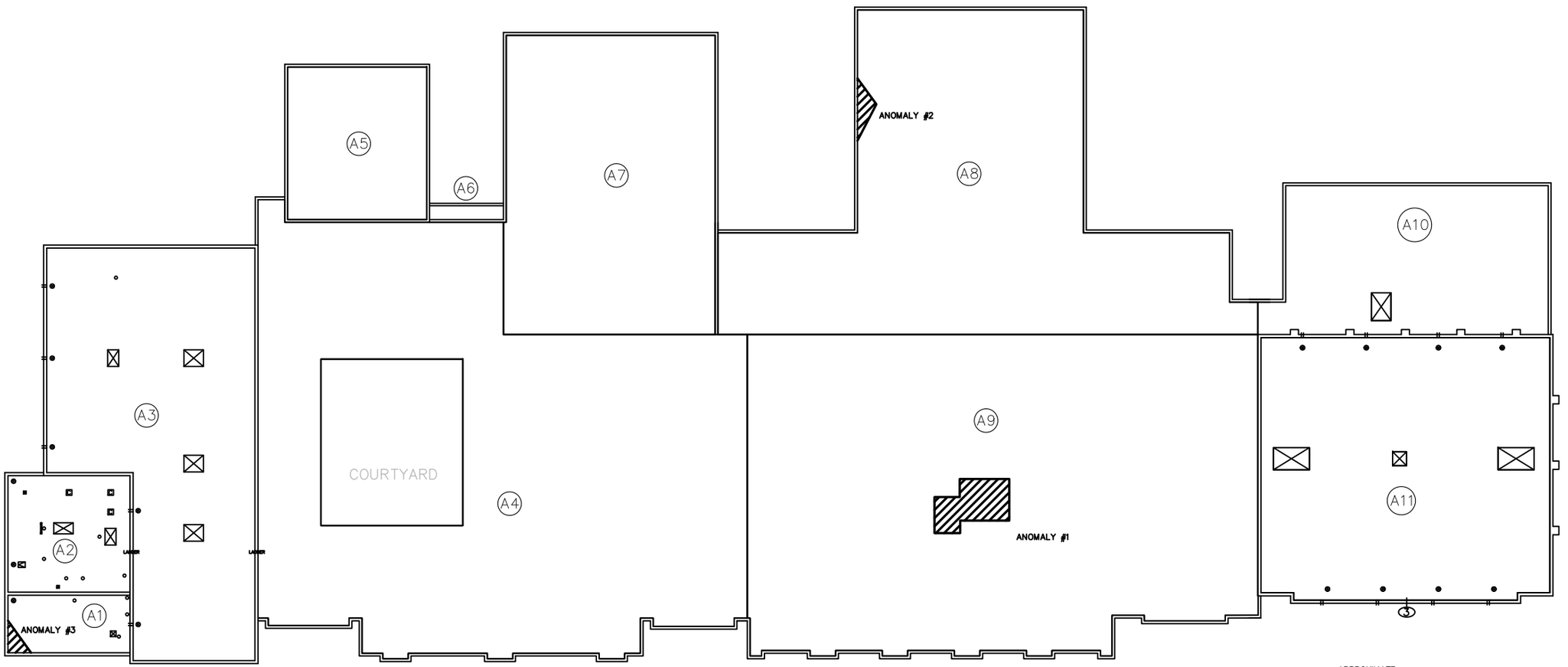
IX. DISCUSSION AND RECOMMENDATIONS

A. Sectors A1, A9

Remove existing roof system to 1’ outside of any wet roofing materials and replace with similar roof system materials. On built up roof sectors, spud back perimeter 1’ for tie in to existing roof system. Install “C” perimeter flashing detail around replacement roof sections to encapsulate and separate repair. Liquid flash tie in and replace gravel into liquid flashing.

X. ROOF PLAN

A roof plan showing the roof outline and the locations of the areas of wet insulation, and other specific information is contained on the following page.



ROOF SECTOR	APPROXIMATE AREA (SQUARE FEET)
SECTOR A1	913 SF
SECTOR A2	1,848 SF
SECTOR A3	9,051 SF
SECTOR A4	20,116 SF
SECTOR A5	2,780 SF
SECTOR A6	133 SF
SECTOR A7	8,164 SF
SECTOR A8	13,425 SF
SECTOR A9	20,440 SF
SECTOR A10	5,170 SF
SECTOR A11	9,798 SF
TOTAL:	91,838 SF

REI ENGINEERS
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PHONE: 252.752.1992
CHARLOTTE, RALEIGH, GREENVILLE

TRASK MS ROOF PLAN

REVISIONS

NO.	DATE
1	
2	
3	
4	

DATE: 04-30-18

DRAWN BY: VKB

SCALE: 1"=40'

DRAWING: 1

Full Facility Roof Report

Trask Middle School

REI Engineers

12/18/15

-30' 0' 30' 60' 90'

SCALE: 1" = 60' - 0"

REI ENGINEERS 704 CROMWELL DR., SUITE A GREENVILLE, NORTH CAROLINA 27858 CHARLOTTE ~ RALEIGH ~ GREENVILLE	SCALE: 1" = 60' DATE 12-18-15 REI PROJECT NO: 15GVL-019	NEW HANOVER COUNTY SCHOOLS 6410 CAROLINA BEACH ROAD WILMINGTON, NC	TRASK MIDDLE SCHOOL 2900 N. College Road Wilmington, NC 28405	DETAIL: KEY PLAN

Facility: Trask Middle School
2900 N. College Rd
Wilmington
North Carolina
28405

Contact Name: Trask Principal

Contact Telephone: (910) 350-2142 Ext

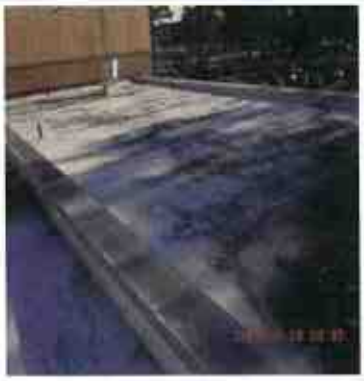
Contact Fax: (910) 350-2144

Date of Last Inspection:

Type of building: Jr. High school

Type of Neighborhood: Rural

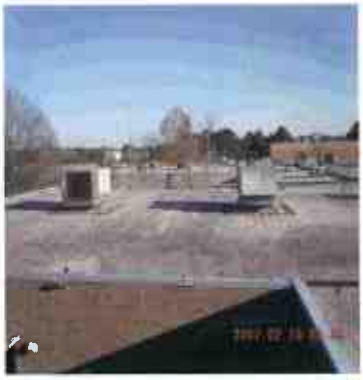
Roof Section List

Photo	Section / Name / Year Installed	Size / Height	Roof Type	Condition Index/ *RCI/ ASLR(Yrs)	Estimated Replacement Value
	A01 Kitchen Storage 2006	1,054 sq. ft. 14 ft.	EPDM-Sealoflex Coated	Fair 41 1(Yrs)	$15,810.00
	A02 Kitchen and Storage 2006	1,942 sq. ft. 14 ft.	EPDM-Sealoflex Coated	Fair 41 1(Yrs)	$29,130.00
	A03 Student Dining, Choral & Band Rooms 2006	9,543 sq. ft. 24 ft.	EPDM-Sealoflex Coated	Poor 40 1(Yrs)	$143,145.00

Roof Section List Continued...

Photo	Section / Name / Year Installed	Size / Height	Roof Type	Condition Index/ *RCI/ ASLR(Yrs)	Estimated Replacement Value
	A04 Lobby, Offices, Media Center, Classrooms A,L,O1,O2 2001	20,220 sq. ft. 14 ft.	Built-Up Asphalt Roofing	Good 66 6(Yrs)	$303,300.00
	A05 Tech Today Lab 1988	2,973 sq. ft. 20 ft.	(EPDM) Ethylene-Propylene-Diene-Monomer Roofing	Good 66 6(Yrs)	$44,595.00
	A06 Canopy 1988	139 sq. ft. 12 ft.	(EPDM) Ethylene-Propylene-Diene-Monomer Roofing	Good 66 6(Yrs)	$2,085.00

Roof Section List Continued...

Photo	Section / Name / Year Installed	Size / Height	Roof Type	Condition Index/ *RCI/ ASLR(Yrs)	Estimated Replacement Value
	A07 Science Rooms S1-S10 1996	8,416 sq. ft. 14 ft.	Built-Up Asphalt Roofing	Poor 40 1(Yrs)	$126,240.00
	A08 Classrooms C18-C26 2001	13,425 sq. ft. 14 ft.	Built-Up Asphalt Roofing	Good 66 6(Yrs)	$201,375.00
	A09 Lobby3 & Classrooms C1-C17 1996	22,584 sq. ft. 14 ft.	Built-Up Asphalt Roofing	Poor 40 1(Yrs)	$338,760.00

Roof Section List Continued...

Photo	Section / Name / Year Installed	Size / Height	Roof Type	Condition Index/ *RCI/ ASLR(Yrs)	Estimated Replacement Value
	A10 Gym Lockers & Associated Rooms 1996	5,010 sq. ft. 14 ft.	Built-Up Asphalt Roofing	Poor 40 1(Yrs)	$75,150.00
	A11 Multipurpose 1996	10,211 sq. ft. 24 ft.	Built-Up Asphalt Roofing	Poor 40 1(Yrs)	$153,165.00
		95,517			**$1,432,755.00**

*RCI Rating 0 -100 where 100 is excellent

Recommendation Summary

Section ID	Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Budget Amount
A01	2015	Maintenance	Yes	Expense	Moderate	$0
A01	2018	Replacement	No	Capital	Moderate	$19,499
A02	2015	Maintenance	Yes	Expense	Moderate	$0
A02	2018	Replacement	No	Capital	Moderate	$35,927
A03	2015	Maintenance	Yes	Expense	Moderate	$0
A03	2018	Replacement	No	Capital	Moderate	$176,546
A04	2015	Maintenance	Yes	Expense	Moderate	$0
A04	2018	Replacement	No	Capital	Moderate	$303,300
A05	2015	Maintenance	Yes	Expense	Moderate	$0
A06	2015	Maintenance	Yes	Expense	Moderate	$0
A07	2015	Maintenance	Yes	Expense	Moderate	$0
A07	2018	Replacement	No	Capital	Moderate	$155,696
A08	2015	Maintenance	Yes	Expense	Moderate	$0
A08	2018	Replacement	No	Capital	Moderate	$201,375
A09	2015	Maintenance	Yes	Expense	Moderate	$0
A09	2018	Replacement	No	Capital	Moderate	$417,804
A10	2015	Maintenance	Yes	Expense	Moderate	$0
A10	2018	Replacement	No	Capital	Moderate	$92,685
A11	2015	Maintenance	Yes	Expense	Moderate	$0
A11	2018	Replacement	No	Capital	Moderate	$163,376
						$1,566,208

Warranties

Section ID	Issue Date	Expiry Date	Warranty Type	Issued By
A04	Aug 16, 2001	Aug 16, 2021	2 yr. contractor	GAF
A04	Nov 01, 2001	Nov 01, 2003	2 yr. contractor	Hanover Iron Works
A08	Aug 16, 2001	Aug 16, 2021	2 yr. contractor	GAF
A08	Nov 01, 2001	Nov 01, 2003	2 yr. contractor	Hanover Iron Works

Roof Name: Kitchen Storage

Roof Size: 1,054 sq. ft.

Est. replacement Cost: $15,810.00

Existing System Type: EPDM-Sealoflex Coated

Year Installed: 2006

Assessed Service Life Remaining (Years) : 1

Height: 14 Ft.

Slope: 1/8

Interior Sensitivity: Normal Sensitivity

Drainage: Adequate

Currently Leaking? Yes

History of Leaking? Yes

Drainage and Leak Details: Drainage : Drains
Access : Roof Hatch
Leaks: At HVAC unit.

Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Surfacing	None	Unknown
Membrane	EPDM - 1 ply - Carlisle	Adhered
Surface Insulation	Wood Fiber - 1/2"	Mechanical
Filler Insulation	EPS - 2-1/2	Mechanical
Base Insulation	Fiberglass - 1"	Mechanical
Vapor retarder	Gyp Board	Mechanical
Deck	Metal	Unknown

Membrane Defects - Outstanding

Type Of Defect	Severity	Quantity
Failed Membrane Coating	Moderate	50

Type Of Defect	Severity	Quantity
Pipe Penetration Flashing	Moderate	2

Type Of Defect	Severity	Quantity
Drainage (Drain) Clogged	Moderate	1

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
Coping (Metal) Open joint	Moderate	1

Type Of Defect	Severity	Quantity
Walls (detail) sealant	Moderate	40

Type Of Defect	Severity	Quantity
Debris	Moderate	1

Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation $
2015	Maintenance	Yes	Expense	Moderate	$0

Note sectors A1-A3 have deficiencies listed only. Due to the coating adhesion failure deficiencies will continue to increase rapidly. Repairs should be limited to critical items; ideally, unclogging roof drains and patching openings. Other issues should be remedied upon replacement.

Sector A1-

1. Failed Coating Released from Single ply membrane. 50+ sq. ft.
2. Damaged vent pipe seals. 2
3. Clogged roof drains from coating failure debris.
4. Aged sealants at Copting T joints.
5. Deteriorated sealants at roof wall panels. 40 LF
6. Debris on surface of the roof from failed coating.

2018	Replacement	No	Capital	Moderate	$19,499
					$19,499

Roof Name: Kitchen and Storage

Roof Size: 1,942 sq. ft.

Est. replacement Cost: $29,130.00

Existing System Type: EPDM-Sealoflex Coated

Year Installed: 2006

Assessed Service Life Remaining (Years) : 1

Height: 14 Ft.

Slope: 1/8

Interior Sensitivity: Normal Sensitivity

Drainage: Adequate

Currently Leaking? No

History of Leaking? Yes

Drainage and Leak Details: Original EPDM installed in 1988 and is approximately 23 years old.
Sealoflex coating installed in 2006 has already deteriorated down to EPDM.
Drainage : Drains
Access : Roof Hatch

Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Surfacing	Sealoflex	Unknown
Membrane	EPDM - 1 ply - Carlisle	Adhered
Surface Insulation	None - N/A	N/A
Filler Insulation	None - N/A	N/A
Base Insulation	Polyisocyanurate - 1.5"	Mechanical
Vapor retarder	None	N/A
Deck	Metal	Unknown

Membrane Defects - Outstanding

Type Of Defect	Severity	Quantity
Failed Membrane Coating	Moderate	80

Type Of Defect	Severity	Quantity
Equip steel rusted	Moderate	2

Type Of Defect	Severity	Quantity
Walls (detail) sealant	Moderate	1

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
Pipe Penetration Flashing	Moderate	1

Type Of Defect	Severity	Quantity
Base flsg: open	Moderate	1

Type Of Defect	Severity	Quantity
Scupper Flashing	Moderate	1

Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation $
2015	Maintenance	Yes	Expense	Moderate	$0

Note sectors A1-A3 have deficiencies listed only. Due to the coating adhesion failure deficiencies will continue to increase rapidly. Repairs should be limited to critical items; ideally, unclogging roof drains and patching openings. Other issues should be remedied upon replacement.

Sector A2-

1. Failed Coating Released from Single ply membrane. 80+ sq. ft.
2. Rusted curb cap. 2
3. Deteriorated sealants at roof waqll panels
4. Rusted goose neck flashings. 1
5. Unsealed goose neck to base flashing. 1
6. Open overflow scupper through high wall. 1

2018	Replacement	No	Capital	Moderate	$35,927
					$35,927

Roof Name: Student Dining, Choral & Band Rooms

Roof Size: 9,543 sq. ft.

Est. replacement Cost: $143,145.00

Existing System Type: EPDM-Sealoflex Coated

Year Installed: 2006

Assessed Service Life Remaining (Years) : 1

Height: 24 Ft

Slope: 1/8

Interior Sensitivity: Normal Sensitivity

Drainage: Adequate

Currently Leaking? No

History of Leaking? Unknown

Drainage and Leak Details: Original EPDM installed in 1988 and is approximately 23 years old
Sealoflex coating installed in 2006 has already deteriorated down to EPDM.
Drainage : Drains
Access : Roof Hatch

Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Surfacing	Sealoflex	Unknown
Membrane	EPDM - 1 ply - Carlisle	Adhered
Surface Insulation	None - N/A	N/A
Filler Insulation	None - N/A	N/A
Base Insulation	Polyisocyanurate - 1-1/2"	Mechanical
Vapor retarder	None	N/A
Deck	Metal	Unknown

Membrane Defects - Outstanding

Type Of Defect	Severity	Quantity
Drainage (Drain) Clogged	Moderate	1

Type Of Defect	Severity	Quantity
Coping: poor fastener	Moderate	200

Type Of Defect	Severity	Quantity
Condensation line	Moderate	4

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
Coping (Metal) Open joint	Moderate	6

Type Of Defect	Severity	Quantity
Equip: steel rusted	Moderate	1

Type Of Defect	Severity	Quantity
Failed Membrane Coating	Moderate	60

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
Rusted Supports	Moderate	2

Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation $
2015	Maintenance	Yes	Expense	Moderate	$0

Note sectors A1-A3 have deficiencies listed only. Due to the coating adhesion failure deficiencies will continue to increase rapidly. Repairs should be limited to critical items; ideally, unclogging roof drains and patching openings. Other issues should be remedied upon replacement.

Sector A3-

1. Clogged roof drains from coating failure debris.
2. Rusted fasteners in coping cap 200+
3. Unsupported condensate lines. 4
4. Open Miter Joints in coping cap. 6
5. Rusted Curb adapter. 1
6. Failed coating released from single ply membrane. 60 SF
7. Rusted condensate support at coping 2

2018	Replacement	No	Capital	Moderate	$176,546
					$176,546

Roof Name: Lobby, Offices, Media Center, Classrooms A,L,O1,O2

Roof Size: 20,220 sq. ft.

Est. replacement Cost: $303,300.00

Existing System Type: Built-Up Asphalt Roofing

Year Installed: 2001

Assessed Service Life Remaining (Years) : 6

Height: 14 Ft.

Slope: 1/8

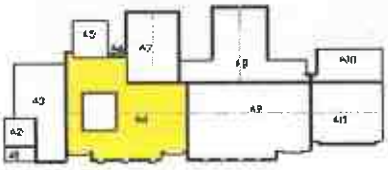
Interior Sensitivity: Normal Sensitivity

Drainage: Adequate

Currently Leaking? No

History of Leaking? Unknown

Drainage and Leak Details: Notes : A4 & A8 at same time.
Drainage : Drains
Access : None



Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Surfacing	Granules	Unknown
Membrane	BUR - Asphalt - 4 ply - GAF	Asphalt
Surface Insulation	Perlite - 3/4" - GAF	Asphalt
Filler Insulation	None - N/A	N/A
Base Insulation	Polyisocyanurate - 2" - GAF	Mechanical
Vapor retarder	None	N/A
Deck	Metal	Unknown

Membrane Defects - Outstanding

Type Of Defect	Severity	Quantity
Condensation line	Moderate	6

Type Of Defect	Severity	Quantity
Coping (Metal) Open joint	Moderate	4

Type Of Defect	Severity	Quantity
Drain missing dome	Moderate	1

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
open base flashing laps	Moderate	22

Type Of Defect	Severity	Quantity
Coping (Metal) Open joint	Moderate	26

Type Of Defect	Severity	Quantity
Scupper	Moderate	9

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
Pipe Penetration Flashing	Moderate	10

Type Of Defect	Severity	Quantity
Walls (detail) sealant	Moderate	200

Type Of Defect	Severity	Quantity
Equipment (Roof Top) Fasteners	Moderate	4

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
Drain: Debris	Moderate	13

Type Of Defect	Severity	Quantity
Trees overhang roof, trimming	Moderate	1

Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation $
2015	Maintenance	Yes	Expense	Moderate	$0
1. Provide sleepers and clamps for unsupported condensate lines. 6 2. Replace sealant at coping cap to wall junctions. 4 3. Replace missing roof drain dome. 1 4. Repair open laps in base flashing. 22 5. Replace sealants at miter joints in coping cap. 26 6. Repair open sealants at overflow scupper. 9 7. Replace damaged lead vent pipe flashing. 10 8. Replace deteriorated sealants at wall panels. 200 LF 9. Add Gasketed S.S. fasteners 2 min. per side of fan curbs. 4 curbs 10. Clear debris from roof drains 13 11. Trim tree overhanging roof.					
2018	Replacement	No	Capital	Moderate	$303,300
					$303,300

Roof Name: Tech Today Lab

Roof Size: 2,973 sq. ft.

Est. replacement Cost: $44,595.00

Existing System Type: (EPDM) Ethylene-Propylene-Diene-Monomer Roofing

Year Installed: 1988

Assessed Service Life Remaining (Years) : 6

Height: 20 Ft.

Slope: 1/8

Interior Sensitivity: Normal Sensitivity

Drainage: Adequate

Currently Leaking? No

History of Leaking? Unknown

Drainage and Leak Details: EPDM Roof Has exceeded it's expected service life.
Drainage : Drains
Access : None

Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Surfacing	None	Unknown
Membrane	EPDM - 1 ply - Carlisle	Adhered
Surface Insulation	None - N/A	N/A
Filler Insulation	None - N/A	N/A
Base Insulation	Polyisocyanurate - 1-1/2"	Mechanical
Vapor retarder	None	N/A
Deck	Metal	Unknown

Membrane Defects - Outstanding

Type Of Defect	Severity	Quantity
Debris	Moderate	1

Type Of Defect	Severity	Quantity
Open lap seam	Moderate	4

Type Of Defect	Severity	Quantity
Equipment (Roof Top) Fasteners	Moderate	2

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
Coping: poor fastener	Moderate	100

Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation $
2015	Maintenance	Yes	Expense	Moderate	$0

1. Remove minor debris from roof surface.
2. Strip in deteriorated EPDM lap seam. 4 LF
3. Add. Gasketed S.S. fasteners min. 2 per side of curbs. 2 curbs
4. Replace Rusted coping cap screws w/ gasketed S.S. fasteners. 100

$0

Roof Name: Canopy

Roof Size: 139 sq. ft.

Est. replacement Cost: $2,085.00

Existing System Type: (EPDM) Ethylene-Propylene-Diene-Monomer Roofing

Year Installed: 1988

Assessed Service Life Remaining (Years) : 6

Height: 12 Ft.

Slope: 1/8

Interior Sensitivity: Normal Sensitivity

Drainage: Adequate

Currently Leaking? No

History of Leaking? Unknown

Drainage and Leak Details: Drainage : Drains
Access : None

Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Surfacing	None	Unknown
Membrane	EPDM - 1 ply - Carlisle	Adhered
Surface Insulation	None - N/A	N/A
Filler Insulation	None - N/A	N/A
Base Insulation	Polyisocyanurate - 1.5"	Mechanical
Vapor retarder	None	N/A
Deck	Metal	Unknown

Membrane Defects - Outstanding

Type Of Defect	Severity	Quantity
Deteriorated Membrane Patch	Moderate	1

Type Of Defect	Severity	Quantity
Counter flashing	Moderate	20

Type Of Defect	Severity	Quantity
Drainage (Downspout) Damaged	Moderate	10

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
Drain (Gutter) Debris	Moderate	1

Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation $
2015	Maintenance	Yes	Expense	Moderate	$0

1. Repair deteriorated patch. 1 SF
2. Replace deteriorated sealants at counter flashing. 20 LF
3. Replace damaged downspout. 10 LF
4. Clean gutters.

$0

Roof Name: Science Rooms S1-S10

Roof Size: 8,416 sq. ft.

Est. replacement Cost: $126,240.00

Existing System Type: Built-Up Asphalt Roofing

Year Installed: 1996

Assessed Service Life Remaining (Years) : 1

Height: 14 Ft.

Slope: 1/8

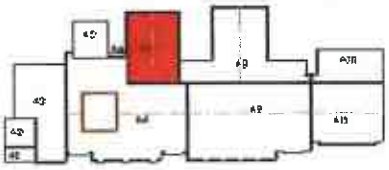
Interior Sensitivity: Normal Sensitivity

Drainage: Adequate

Currently Leaking? No

History of Leaking? Unknown

Drainage and Leak Details: Drainage : Drains
Access : None

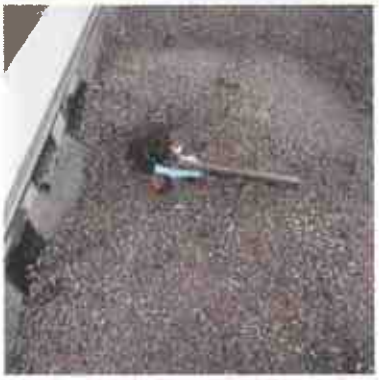


Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Surfacing	Gravel	Unknown
Membrane	BUR - Asphalt - 4 ply	Adhered
Surface Insulation	Perlite - Varies	Adhered
Filler Insulation	None - N/A	N/A
Base Insulation	Polyisocyanurate - 1 1/2"	Mechanical
Vapor retarder	Unknown	Unknown
Deck	Metal	Unknown

Membrane Defects - Outstanding

Type Of Defect	Severity	Quantity
Drain: Debris	Moderate	5



Type Of Defect	Severity	Quantity
Equip: steel rusted	Moderate	2

Type Of Defect	Severity	Quantity
Debris	Moderate	1

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
Pipe Penetration Flashing	Moderate	8

Type Of Defect	Severity	Quantity
Condensation line	Moderate	2

Type Of Defect	Severity	Quantity
Scupper Flashing	Moderate	5

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
Base flsg: damaged/loose	Moderate	20

Type Of Defect	Severity	Quantity
Damaged Surface Membrane	Moderate	4

Type Of Defect	Severity	Quantity
Base flsg: open	Moderate	60

Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation $
2015	Maintenance	Yes	Expense	Moderate	$0
1. Clear debris from roof drains. 5 2. Scrape prime and paint rusted roof top unit adapters. 2 3. Remove debris from roof surface. 4. Replace damaged lead vent pipe flashing. 8 5. Add Sleepers and clamps to unsupported condensate lines. 2 6. Repair open/ aged seams at overflow scuppers flashing. 5 7. Repair damaged base flashing. 20 LF 8. Repair split in roof membrane. 4 LF 9. Repair open laps in aged base flashing. 60					
2018	Replacement	No	Capital	Moderate	$155,696
					$155,696

Roof Name: Classrooms C18-C26

Roof Size: 13,425 sq. ft.

Est. replacement Cost: $201,375.00

Existing System Type: Built-Up Asphalt Roofing

Year Installed: 2001

Assessed Service Life Remaining (Years) : 6

Height: 14 Ft.

Slope: 1/4

Interior Sensitivity: Normal Sensitivity

Drainage: Adequate

Currently Leaking? Yes

History of Leaking? Yes

Drainage and Leak Details: Notes: Roof system Installed at the same time as Sector A4.
Drainage : Surface Drains
Access : None
Leaks: multiple leaks at HVAC units over Classrooms

Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Surfacing	Gravel	Unknown
Membrane	BUR - Asphalt - 4 ply - GAF	Asphalt
Surface Insulation	Perlite - 3/4" - GAF	Asphalt
Filler Insulation	Polyisocyanurate - 2" - GAF	Mechanical
Base Insulation	Gypsum Board - 5/8"	Mechanical
Vapor retarder	None	N/A
Deck	Metal	Unknown

Membrane Defects - Outstanding

Type Of Defect	Severity	Quantity
open base flashing laps	Moderate	80

Type Of Defect	Severity	Quantity
Drain: Debris	Moderate	6

Type Of Defect	Severity	Quantity
Equipment (Roof Top) Fasteners	Moderate	4

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
Coping (Metal) Open joint	Moderate	7

Type Of Defect	Severity	Quantity
Trees overhang roof, trimming	Moderate	1

Type Of Defect	Severity	Quantity
Pipe Penetration Flashing	Moderate	5

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
Equip. steel rusted	Moderate	1

Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation $
2015	Maintenance	Yes	Expense	Moderate	$0

1. Repair open laps in aged base flashing. 80
2. Clear debris from roof drains. 6
3. Provide additional gasketed S.S. fasteners min. 2 per side at fan curbs. 4
4. Replace deteriorated sealants at coping cap miter joints. 7
5. Trim tree overhanging roof. 1
6. Replace damaged Lead vent pipe flashing. 5
7. Scrape prime and paint rusted roof top unit adapter. 1

2018	Replacement	No	Capital	Moderate	$201,375
					$201,375

Roof Name: Lobby3 & Classrooms C1-C17

Roof Size: 22,584 sq. ft.

Est. replacement Cost: $338,760.00

Existing System Type: Built-Up Asphalt Roofing

Year Installed: 1996

Assessed Service Life Remaining (Years) : 1

Height: 14 Ft.

Slope: 1/8

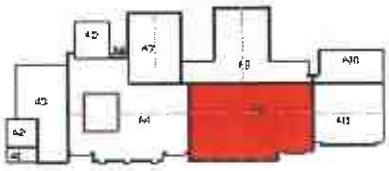
Interior Sensitivity: Normal Sensitivity

Drainage: Adequate

Currently Leaking? Yes

History of Leaking? Yes

Drainage and Leak Details: Repairs made to Wall Flashing in 2006
Drainage : Drains
Access : None
Leaks: 1. (2) HVAC units leaking 2. Expansion joint leaking.



Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Surfacing	Gravel	Unknown
Membrane	BUR - Asphalt - 4 ply	Adhered
Surface Insulation	Perlite - Varies	Adhered
Filler Insulation	None - N/A	N/A
Base Insulation	Polyisocyanurate - 1 1/2"	Mechanical
Vapor retarder	Unknown	Unknown
Deck	Metal	Unknown

Membrane Defects - Outstanding

Type Of Defect	Severity	Quantity
Membrane: ponded water	Moderate	30

Type Of Defect	Severity	Quantity
Membrane: Surfacing issue	Moderate	28

Type Of Defect	Severity	Quantity
Drain: Debris	Moderate	9

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
open base flashing laps	Moderate	100

Type Of Defect	Severity	Quantity
Pipe Penetration Flashing	Moderate	1

Type Of Defect	Severity	Quantity
Condensation line	Moderate	6

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
Coping: open sealant	Moderate	29

Type Of Defect	Severity	Quantity
Debris	Moderate	1

Type Of Defect	Severity	Quantity
Scupper Flashing	Moderate	6

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
Equip: steel rusted	Moderate	1

Type Of Defect	Severity	Quantity
Equipment (Roof Top) Fasteners	Moderate	6

Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation $
2015	Maintenance	Yes	Expense	Moderate	$0

1. Apply flood coat of mastic to raise ponding areas at high wall adjacent to A-8 and A-9. 30 LF
2. Repair bare surface area. 28 SF
3. Clear debris from roof drains. 9
4. Repair open base flashing lap seams. 100
5. Replace damaged lead vent pipe flashing.
6. Add sleepers and clamps to unsupported condensate lines. 6
7. Replace aged sealant at coping cap miter joints and expansion joint cover overlaps. 29
8. Clear debris from roof surface.
9. Repair open flashing at overflow scuppers. 6
10. Replace rusted curb cap. 1
11. Install additional gasketed S.S. fasteners min. 2 per side of fan curbs. 6 curbs

2018	Replacement	No	Capital	Moderate	$417,804
					$417,804

Roof Name: Gym Lockers & Associated Rooms

Roof Size: 5,010 sq. ft.

Est. replacement Cost: $75,150.00

Existing System Type: Built-Up Asphalt Roofing

Year Installed: 1996

Assessed Service Life Remaining (Years) : 1

Height: 14 Ft.

Slope: 1/8

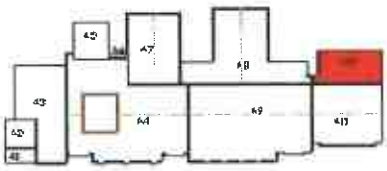
Interior Sensitivity: Normal Sensitivity

Drainage: Adequate

Currently Leaking? Yes

History of Leaking? Yes

Drainage and Leak Details: Notes: Repairs made in 2006 to Wall and HVAC Flashing at the same time as A9
Drainage : Drains
Access : None
Leaks: at Windows



Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Surfacing	Gravel	Unknown
Membrane	BUR - Asphalt - 4 ply	Adhered
Surface Insulation	Wood Fiber - 1/2"	Adhered
Filler Insulation	None - N/A	N/A
Base Insulation	Polyisocyanurate - 1 1/2"	Mechanical
Vapor retarder	None	N/A
Deck	Metal	Unknown

Membrane Defects - Outstanding

Type Of Defect	Severity	Quantity
Membrane: ponded water	Moderate	15

Type Of Defect	Severity	Quantity
Pitch pan not topped off	Moderate	2

Type Of Defect	Severity	Quantity
Equipment (Roof Top) Fasteners	Moderate	7

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
Debris	Moderate	1

Type Of Defect	Severity	Quantity
Drain: Debris	Moderate	4

Type Of Defect	Severity	Quantity
Coping (Metal) Open joint	Moderate	3

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
Coping: poor fastener	Moderate	100

Type Of Defect	Severity	Quantity
Equip: steel rusted	Moderate	2

Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation $
2015	Maintenance	Yes	Expense	Moderate	$0
1. Apply flood coat of mastic to raise ponding areas at high wall adjacent to A-8. 15 LF 2. Top-off Pitch pockets. 2 3. Install additional gasketed S.S. fasteners at equipment curbs. 7 4. Clear debris from roof surface. 5. Clear debris from roof drains. 4 6. Replace sealants at coping miter joints. 3 7. Relplace rusted fasteners with new Gasketed S.S. fasteners in coping cap. 100 8. Scrape prime and paint rusted curb adapter. 2					
2018	Replacement	No	Capital	Moderate	$92,685
					$92,685

Roof Name: Multipurpose

Roof Size: 10,211 sq. ft.

Est. replacement Cost: $153,165.00

Existing System Type: Built-Up Asphalt Roofing

Year Installed: 1996

Assessed Service Life Remaining (Years) : 1

Height: 24 Ft.

Slope: 1/8" per ft.

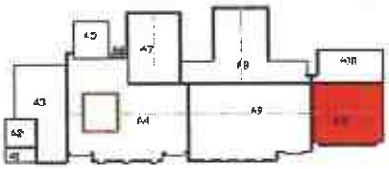
Interior Sensitivity: Normal Sensitivity

Drainage: Adequate

Currently Leaking? No

History of Leaking? Yes

Drainage and Leak Details: Drainage : Drains
Access : None



Existing Roof System Construction

Layer Type	Description	Method Of Attachment
Surfacing	Gravel	Unknown
Membrane	BUR - Asphalt - 4 ply	Adhered
Surface Insulation	Wood Fiber - 1/2"	Adhered
Filler Insulation	None - N/A	N/A
Base Insulation	Polyisocyanurate - 1 1/2"	Mechanical
Vapor retarder	None	N/A
Deck	Metal	Unknown

Membrane Defects - Outstanding

Type Of Defect	Severity	Quantity
Debris	Moderate	1

Type Of Defect	Severity	Quantity
open base flashing laps	Moderate	60

Type Of Defect	Severity	Quantity
Deteriorated membrane	Moderate	100

Membrane Defects - Outstanding Continued...

Type Of Defect	Severity	Quantity
Trees overhang roof, trimming	Moderate	1

Type Of Defect	Severity	Quantity
Coping: open sealant	Moderate	8

Recommendations Details

Budget Year	Activity Type	Action Item ?	Allocation	Urgency	Quotation $
2015	Maintenance	Yes	Expense	Moderate	$0
1. Clear debris from roof surface. 2. Repair seams at mod-bit to gravel surface BUR transition of equipment curb base flashing. 60 LF 3. Repair deteriorated surface of modified bitumen membrane. 100 SF 4. Trim tree over hanging roof. 5. Replace deteriorated sealants at coping cap miters. 8					
2018	Replacement	No	Capital	Moderate	$163,376
					$163,376