

PROJECT MANUAL
FOR THE
Wake County Dam #2
Hatcher's Grove Auxiliary Spillway Repair



OWNER:
WAKE COUNTY

DESIGNER:
ALPHA & OMEGA GROUP
4601 LAKE BOONE TRAIL, SUITE 3C
RALEIGH, NC 27607

July 12, 2021



ALPHA & OMEGA GROUP
CIVIL | STRUCTURAL | WATER RESOURCES



William S. Needham

SET NO. ____

NOTICE TO BIDDERS

Sealed informal bids will be received by County of Wake in the Purchasing Department, Room 2900, Wake County Justice Center, 301 South McDowell Street, Raleigh, NC 27601 for providing labor, material and equipment entering into a Single Prime Contract for construction of the "Wake County Dam #2, Hatcher's Grove Auxiliary Spillway Repair" State Dam: Wake-223 located at Preston Village North in Cary, NC.

Sealed Single Prime bids will be received up to 3:00 p.m. on Tuesday, September 14, 2021 and immediately thereafter publicly opened and read.

A mandatory pre-bid conference will be held at 1:30 p.m. on Thursday, August 26, 2021 at the Dam #2 entrance along Morrisville Parkway, Cary, NC, for those parties interested.

Complete contract documents can be obtained from Alpha & Omega Group, (919) 981-0310. Complete contract Documents may also be reviewed at the offices of the Engineer.

All questions related to the project must be received by 5:00 on Tuesday, August 31, 2021.

Wake County provides minorities and women equal opportunity to participate in all aspects of its construction program consistent with North Carolina Law.

No bid may be withdrawn for sixty (60) days after the scheduled closing time for bids.

The Owner, Wake County reserves the right to reject any or all bids and to waive informalities and irregularities.

Signed: COUNTY OF WAKE

By: Rick Stogner, Project Manager
General Services Administration

ENGINEER: Alpha & Omega Group
4601 Lake Boone Trail Suite 3C
Raleigh, NC 27607
(919) 981-0310

HATCHER'S GROVE DAM #2 AUXILIARY SPILLWAY REPAIR

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SUPPLEMENTARY GENERAL CONDITIONS

GENERAL

This Supplementary Conditions contains changes and additions to the project "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION", as published herein. Where any Article of the General Conditions is modified or any Paragraph, Subparagraph or Clause thereof is modified or deleted by these Supplementary Conditions, the unaltered provisions of the Article, Paragraph, Subparagraph or Clause shall remain in effect.

ARTICLE 1. Definitions

Paragraph 1.13: At the end of the existing paragraph, add the following:

“The Contract Time is 45 consecutive calendar days, beginning on the Date of Commencement as specified in the written Notice-to-Proceed.”

Paragraph 1.17: Add the following:

“The Designer/Firm for this contract is: Alpha & Omega Group, PC
4601 Lake Boone Trail, Suite 3C
Raleigh, NC 27607 (919) 981-0310

Paragraph 1.18: Delete the last sentence in its entirety and substitute the following in lieu thereof:

“A list of the Drawings is contained in the “Supplementary General Conditions.”

The Drawings applicable to this Contract are as follows:

CVR	Cover Sheet
C1.0	Existing Conditions
C1.1	Overall Erosion and Sediment Control Plan
C1.2	Erosion and Sediment Control Details
C1.3	NCGO1 Notes
C1.4	NCGO1 Notes
C2.0	Repair Area #1 Plan & Details
C2.1	Repair Area #2 Plan & Details
C2.2	Repair Area #3 Plan & Details
C2.3	Drainage Plan & Profile

Paragraph 1.27: Add the following:

“Owner’s Authorized Representative:
Project Manager: Matthew Hart, PE, PMP
Wake County General Services Admin.
P.O. Box 550
Raleigh, NC 27602
(919) 870-4035

Paragraph 1.29: Add the following:

“The Project is titled “Wake County Dam #2 Hatcher's Grove Auxiliary Spillway Repair”. All required papers shall be delivered to the Project Manager listed above unless otherwise directed in writing to the Contractor.”

ARTICLE 3. Familiarity with Work, Conditions and Laws

Paragraph 3.3: Add the following:

“All Project Work shall conform to the regulations, codes, and standards of the following institutions or agencies:

American National Standards Institute (ANSI)
American Society of Testing and Materials (ASTM)
American Welding Society (AWS)
North Carolina State Building Code (NCSBC)
North Carolina Division of Environmental Health (DEH)
Occupational Safety and Health Act (OSHA)”

ARTICLE 6. Other Record Documents and Submittals

Paragraph 6.1: At the end of the existing paragraph, add the following:

“Four (4) copies of the Contract Documents will be furnished to the General Contractor.”

ARTICLE 10. Designer

Add the following paragraphs:

“10.5 As a part of its Basic Services under the Owner-Designer Agreement, the Designer will conduct a single site visit to determine Substantial Completion of the Work.

If, after the performance of said site visit, the Designer determines that the Work is not substantially complete, successive site visits to determine Substantial Completion will be deemed Additional Services under the Owner-Designer Agreement. The Contractor shall be liable to the Owner for any Designer's fees incurred as a result of any such Additional Services of the Designer. Any funds due under this paragraph may be deducted by the Owner from the amounts due the Contractor for such additional Designer's fees and paid directly to the Designer. Should the cost for such Additional Services of the Designer exceed the amount due or to become due to the Contractor, then the Contractor and his sureties shall be liable for and shall pay to the Owner the amount of any such excess.

“10.6 As a part of its Basic Services under the Owner-Designer Agreement, the Designer will conduct a single site visit to determine Final Completion of the Work. If, after the performance of said site visit, the Designer determines that the Work is not complete, successive site visits to determine Final Completion of the Work will be deemed Additional Services under the Owner-Designer Agreement. The Contractor shall be liable to the Owner for any Designer’s fees incurred as a result of any such Additional Services of the Designer. Any funds due under this paragraph may be deducted by the Owner from the amounts due the Contractor for such additional Designer’s fees and paid directly to the Designer. Should the cost for such Additional Services of the Designer exceed the amount due or to become due to the Contractor, then the Contractor and his sureties shall be liable for and shall pay to the Owner the amount of any such excess.”

ARTICLE 13. Contract Time

Paragraph 13.1: The existing paragraph is revised to read as follows:

Within fourteen (14) days after receipt of the Construction Agreement by the Contractor for signatures, the Project Expediter shall prepare and submit to the Designer and Owner for review and approval a coordinated construction schedule for the Work pursuant to the requirements stated in the Contract Documents.

Paragraph 13.18: Add the following:

“If the Contractor fails to achieve Substantial Completion of the Work within the Contract Time and as otherwise required by the Contract Documents, the Owner shall be entitled to retain or recover from the Contractor, as Step One Liquidated Damages and not as a penalty, the following per diem amount commencing upon the first day following expiration of the Contract Time and continuing until the actual date of Substantial Completion. Such liquidated damages are hereby agreed to be a reasonable pre-estimate of damages the Owner will incur as a result of delayed Substantial Completion of the Work:

Two Hundred Dollars (\$200.00) per consecutive calendar day

If the Contractor fails to achieve Final Completion of the Work within thirty (30) consecutive calendar days of the actual date of Substantial Completion of the Work, the Owner shall be entitled to retain or recover from the Contractor, as Step Two Liquidated Damages and not as a penalty, the following per diem amount commencing upon the first day following the actual date of Substantial Completion and continuing until the actual date of Final Completion. Such liquidated damages are hereby agreed to be a reasonable pre-estimate of damages the Owner will incur as a result of delayed Final Completion of the Work:

One Hundred Dollars (\$100.00) per consecutive calendar day

The Owner may deduct liquidated damages described above from any unpaid amounts then or thereafter due the Contractor under this Agreement. Should the amount of any liquidated damages exceed the amount due or to become due to the Contractor, then the Contractor and his sureties shall be liable for and shall pay to the Owner the amount of any such excess.”

ARTICLE 29. Taxes

Paragraph 29.1: Add the following to the existing paragraph:

“The Contractor is to use the Sales Tax Reporting Form attached to Section 012900 of the contract documents for reporting taxes paid.”

ARTICLE 35. Minority Business Enterprise Program

The owner will decide if the MBE program is required for this project.

ARTICLE 36. General

Add the following paragraph:

“36.3 Any specific requirement in this Contract that the responsibilities or obligations of the Contractor also apply to a Subcontractor is added for emphasis and is also hereby deemed to include a Subcontractor of any tier. The omission of a reference to a Subcontractor in connection with any of the Contractor’s responsibilities or obligations shall not be construed to diminish, abrogate, or limit any responsibilities or obligations of a Subcontractor of any tier under the Contract Documents or the applicable subcontract.”

END OF SUPPLEMENTARY GENERAL CONDITIONS

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, _____

(Bidder's Name)

_____, of _____

(Street Address)

(City, State, Zip)

hereinafter called the Principal, and _____

___ of

(Surety's Name)

_____, a Corporation duly organized, and existing under the laws of the State of _____ and authorized to transact business in the State of North Carolina, as Surety, hereinafter called the Surety, are held and firmly bound unto the County of Wake as Owner, hereinafter called the Obligee, in the Penal sum of five percent (5%) of the amount bid, good and lawful money of the United States of America, for the payment for which the Principal and the Surety, bind ourselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents. This bid bond is submitted in lieu of submitting cash, a cashier's check, or a certified check pursuant to G.S. 143- 129.

WHEREAS, the Principal has submitted a Bid for the construction of _____

_____.

(Project Name)

—

NOW THEREFORE, if the Obligee shall accept the Bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of said Bid, and give such bond or bonds as may be specified in the Bidding and Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and materials furnished in the prosecution thereof, then this obligation shall be null and void; but if the Principal fails to so execute such Contract and give such bonds as required by G.S. 143-129, this obligation shall otherwise remain in full force and effect and the Surety shall, upon demand, forthwith pay to the Obligee the full amount set forth in the first paragraph hereof.

SIGNED AND SEALED this ___ day of _____, 20__ in the presence of:

Witness _____

Witness _____

Principal (SEAL)

Surety (SEAL)

Title

Title

CONSTRUCTION AGREEMENT
FOR
WAKE COUNTY DAM #2
HATCHER'S GROVE AUXILIARY SPILLWAY REPAIR

THIS AGREEMENT, made as of the ____ day of _____, 2021, by and between _____, a corporation, hereinafter called the Contractor, and Wake County, a body corporate and politic and a political subdivision of the State of North Carolina, hereinafter called the Owner.

WITNESSETH:

That the Contractor and the Owner, for the consideration herein named, agree as follows:

1. SCOPE OF WORK - The Contractor shall furnish and deliver all of the materials, and perform all of the work required by this Agreement and the following enumerated documents, which are attached hereto and made a part hereof as if fully contained herein: General Conditions, Supplemental Conditions, Contract Construction Schedule, Specifications, Drawings entitled "Wake Grove Dam #2, Hatcher's Grove Auxiliary Spillway Repair, Cary North Carolina, (Cary Plan #21-DP-7952) Dated March 10, 2021)" which Drawings are listed in the Specifications, Performance Bond, Labor and Material Payment Bond, Insurance Certificates, and the following addenda:

Addendum No. _____	Dated _____
Addendum No. _____	Dated _____
Addendum No. _____	Dated _____

All of the documents listed, referenced or described in this paragraph, together with Modifications made or issued in accordance herewith are the Contract Documents, and the work, labor, materials and completed construction required by the Contract Documents and all parts thereof is the Work. The Contractor shall perform the Work in the time, manner and form required by the Contract Documents. The Contract Documents constitute the entire agreement between Owner and Contractor.

2. The Contractor agrees to commence work not later than three (3) days after the commencement date specified in the Notice to Proceed. The Contractor agrees to complete fully all Work hereunder on the dates specified in the Contract Documents, as may be adjusted in accordance with the terms thereof. Time is of the essence with

respect to all dates specified in the Contract Documents as Completion Dates. Liquidated damages for failure(s) to complete in accordance with the provisions of this paragraph shall be computed and assessed against the Contractor in accordance with the Contract Documents.

3. The Owner hereby agrees to pay to the Contractor for the faithful performance of this Agreement, and the Contractor hereby agrees to perform all of the Work, for the sum of _____ Dollars (\$ _____) in the lawful money of the United States, subject to adjustments as provided for in the Contract Documents. Payment of the Contract Price shall be in accordance with Articles 20 and 21 of the General Conditions.

4. It is further mutually agreed between the parties hereto that if at any time after the execution of this Agreement and the Performance Bond and Labor and Material Payment Bond hereto attached for its faithful performance, the Owner shall deem the surety or sureties upon such Bonds to be unsatisfactory, or if, for any reason, such Bonds or either of them cease to be adequate to cover the performance of and payment for the Work, the Contractor shall, at its expense, within five (5) days after notice from the Owner so to do, furnish an additional bond or bonds in such form and amount and with such surety or sureties as shall be satisfactory to the Owner. In such event no further payment to the Contractor shall be deemed to be due under this Agreement until such new or additional security for the faithful performance of or payment for the Work shall be furnished in a manner and form satisfactory to the Owner.

5. Terms used in this Agreement which are defined in the Contract Documents shall have the meanings designated in those Contract Documents.

6. The laws of the State of North Carolina shall apply to the interpretation and enforcement of this Agreement. Any and all suits or actions to enforce, interpret or seek damages with respect to any provision of, or the performance or nonperformance of, this Agreement shall be brought in the General Court of Justice of North Carolina sitting in Wake County, North Carolina, or the United States District Court sitting in Wake County, North Carolina, and it is agreed by the parties that no other court shall have jurisdiction or venue with respect to such suits or actions.

7. To ensure compliance with the E-Verify requirements of the General Statutes of North Carolina, all contractors, including any subcontractors employed by the contractor(s), by submitting a bid, proposal or any other response, or by providing any material, equipment, supplies, services, etc, attest and affirm that they are aware and in full compliance with N.C.G.S. Chapter 64, Article 2 (N.C.G.S. 64-26(a)) relating to the E-Verify requirements.

8. By acceptance of this contract/purchase order or by submission of any bid, proposal, etc, vendors, contractors, and/or subcontractors affirm they are not listed on the Final Divestment List created by the State Treasurer pursuant to N.C.G.S. 143-6A-4, Iran

Divestment Act Certification. Contractor/vendor shall not utilize any subcontractor that is identified on the list

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as of the day and date first above written in a number of counterparts, each of which shall, without proof or accounting for other counterparts, be deemed an original contract.

CONSTRUCTION AGREEMENT

Contractor: (Trade or Corporate Name)

By: _____

Title: _____
(President)

ATTEST: (CORPORATION)

By: _____

Title: _____
(Corporate Secretary)

(CORPORATE SEAL)

WITNESS:

(Proprietorship or Partnership)

WAKE COUNTY
P. O. Box 550
Raleigh, N.C. 27602

Johnna Rogers
Deputy County Manager

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

Wake County Finance Director

This instrument has been reviewed by Wake County Facilities, Design & Construction

Wake County Dam #2
Hatcher's Grove Auxiliary Spillway Repair

Mark Forestieri
Director, Facilities Design & Construction
This instrument is approved as to Form.

Scott W. Warren
Wake County Attorney

The person responsible for monitoring the contract performance requirements is

Rick Stogner.

_____ Department Head Initials

PAYMENT BOND

Date of Contract: _____

Date of Execution: _____

Name of Principal: _____

(Contractor) _____

Name of Surety: _____

Name of Contracting Body: County of Wake
P.O. Box 550
Raleigh, N.C. 27602

Amount of Bond: _____
Dollars (\$ _____)

Project: _____

KNOW ALL MEN BY THESE PRESENTS, that we, the PRINCIPAL and SURETY above named, are held and firmly bound unto the above named owner, hereinafter called "Owner", 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 Owner identified as shown above and hereto attached:

NOW THEREFORE, if the Principal shall promptly make payment to all persons supplying labor and 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 modification 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 representatives, pursuant to authority of its governing body.

Wake County Dam #2
Hatcher's Grove Auxiliary Spillway Repair

PAYMENT BOND

Executed in Four (4) Counterparts.

CONTRACTOR:

By: _____

Title: _____
(Corporation President or
Vice President Only)

ATTEST: (Corporation)

(Corporation Secretary or Assistant
Secretary Only)

(CORPORATE SEAL)

SURETY COMPANY:

WITNESS: By: _____

(Attorney in Fact)

Title: _____

(SURETY CORPORATE SEAL)

COUNTERSIGNED:

(N.C. Licensed Resident Agent)

Name and Address-Surety Agency

Surety Company Name and N.C.
Regional or Branch Office Address

PERFORMANCE BOND

Date of Contract: _____

Date of Execution: _____

Name of Principal: _____
(Contractor) _____

Name of Surety: _____

Name of Contracting Body: County of Wake
P.O. Box 550
Raleigh, N.C. 27602

Amount of Bond: _____
Dollars (\$ _____)

Project: _____

KNOW ALL MEN BY THESE PRESENTS, that we, the PRINCIPAL and SURETY above named, are held and firmly bound unto the 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 countersigned representative, pursuant to authority of its governing body.

PERFORMANCE BOND

Executed in Four (4) Counterparts.

CONTRACTOR:

By: _____

Title: _____
(Corporation President or
Vice President Only)

ATTEST: (Corporation)

(Corporation Secretary or Assistant
Secretary Only)

(CORPORATE SEAL)

SURETY COMPANY:

WITNESS: By: _____

(Attorney in Fact)

Title: _____

(SURETY CORPORATE SEAL)

COUNTERSIGNED:

(N.C. Licensed Resident Agent)

Name and Address-Surety Agency

Surety Company Name and N.C.
Regional or Branch Office Address

**MINORITY BUSINESS ENTERPRISE PARTICIPATION IN WAKE COUNTY
BUILDING CONSTRUCTION AND REPAIR CONTRACTS**
INFORMAL CONSTRUCTION CONTRACTS

1.1 POLICY STATEMENT

It is the policy of the County to encourage minorities to participate in its building construction, renovation and repair projects.

It is further the policy of the County to prohibit illegal discrimination against any person or business enterprise and to conduct its building construction, renovation and repair programs so as to prevent such discrimination.

It is the policy of the County in concert with other local, state and federal agencies and with the assistance of minority groups and agencies, to seek and identify qualified minority business enterprises (MBEs) and to offer them the opportunity to participate, and to encourage them to participate, in the County's building construction and repair programs. Under this policy, the County adopts the definition of MBEs contained in N.C.G.S. § 143-128.2.

It is the policy of the County to provide information and opportunities to minority business enterprises that are available to other business enterprises, and to establish procedures providing MBEs access to information and opportunities available to other business enterprises.

It is the intent of this policy to secure contractors' participation and ensure competition. Nothing in this policy shall be construed to require contractors or the County to award contracts or subcontracts or to make purchases of materials or equipment from minority business contractors or minority-business subcontractors who do not submit the lowest responsible, responsive bid or bids.

The County will award public building construction and repair contracts to the lowest responsible, responsive bidder as provided by Article 8 of Chapter 143 of the North Carolina General Statutes.

1.2 SCOPE: This Policy Applies To Minority Business, Minority Persons, and Socially and Economically Disadvantaged Individuals. [Ref: N.C.G.S. §143-128.2(g)]

A. A Minority Business (MBE) is a business:

1. In which at least fifty-one percent (51%) is owned by one or more minority persons or socially and economically disadvantaged individuals, or in the case of a corporation, in which at least fifty-one percent (51%) of the stock is owned by one or more minority persons or socially and economically disadvantaged individuals, and

2. Of which the management and daily business operations are controlled by one or more of the minority persons or socially and economically disadvantaged individuals who own it.
- B. A Minority Person¹ is a person who is a citizen or lawful permanent resident of the United States, and who is:
1. Black, that is, a person having origins in any of the black racial groups in Africa;
 2. Hispanic, that is, a person of Spanish or Portuguese culture with origins in Mexico, South or Central America, or the Caribbean Islands, regardless of race;
 3. Asian American, that is, a person having origins in any of the original peoples of the Far East, Southeast Asia and Asia, the Indian subcontinent, the Pacific Islands;
 4. American Indian or Alaskan Native, that is, a person having origins in any of the original peoples of North America; or
 5. Female.
- C. A Socially and Economically Disadvantaged Individual is defined by 15 U.S.C. 637 as a socially disadvantaged individual whose ability to compete in the free enterprise system has been impaired due to diminished capital and credit opportunities as compared to others in the same business area who are not socially disadvantaged. In determining the degree of diminished credit and capital opportunities, the federal government considers factors such as assets and net worth. This category includes members of economically disadvantaged Indian tribes.

1.3 VERIFIABLE GOALS FOR MINORITY BUSINESS ENTERPRISE PARTICIPATION²

- A. County Funded Building Construction or Repair Projects costing \$30,000 or more.
1. The County has established a verifiable goal of ten percent (10%) for participation by minority businesses in building construction and repair projects covered by this section. [Ref: N.C.G.S. §143-128.2 (a)]
- B. For Building Construction or Repair Projects Using State Appropriations or Other State Grant Funds Where the Project Cost is Equal to or Greater than One Hundred Thousand Dollars (\$100,000), the County shall use the State's verifiable goal of ten percent (10%) for participation by minority business in building construction and repair projects covered by this section. [Ref: N.C.G.S. §143-128.2 (a)]

¹ For building projects funded in whole or in part with federal funds, Hasidic Jews are also considered minority persons.

² Projects funded in whole or in part with federal funds will comply with applicable federal thresholds regarding Minority and Woman Owned Business Enterprises participation.

REGULATIONS AND PROCEDURES FOR IMPLEMENTING MINORITY BUSINESS ENTERPRISE PARTICIPATION POLICY

2.1 INFORMAL BUILDING PROJECTS: Building construction and repair projects costing more than Thirty Thousand Dollars (\$30,000), but less than Three Hundred Thousand Dollars (\$300,000).

A. County Responsibilities:

1. Notify Minority Business Enterprises of bidding opportunities by one of the following methods:
 - a) Advertise the project at the Raleigh/Durham/Triad Minority Business Development Center or similar institution, or;
 - b) Advertise the project in an identified Minority Business Enterprise targeted newspaper(s) or;
 - c) Attempt to contact Minority Business Enterprises totaling at least 30% of the total number of vendors contacted [Ref.: N.C.G.S. §143-129. (b)]
2. Record all contractors contacted, along with the list of contractors provided with bidding documents.
3. Identify Minority Business firms contacted and record their minority category.
4. Record all contractors submitting bids, along with the amount of each bid.
5. Within five (5) days of project completion, submit a completed "Informal Construction Project Report Form" to the Wake County Finance Department.

B. Contractor Responsibilities:

1. The Contractor will provide the following documentation, **Wake County Form MBE-6**, at contract closeout and prior to final payment by the county.
 - a) A list of minority business's used on the project, identifying the businesses name, type of work performed, and minority category.
 - b) List the dollar amount paid to each minority business and the percentage it represents of the final project value.

2.2 COUNTY RECORD KEEPING PROCEDURES FOR MONITORING CONTRACTOR COMPLIANCE ON COUNTY BUILDING CONSTRUCTION AND REPAIR PROJECTS.

- A. INFORMAL CONTRACTS.** The County Finance Department shall maintain for three years from project completion date all records with respect to:
1. Those contractors notified or solicited for each building construction or repair projects, noting all that are minority businesses and their minority category.
 2. Those contractors that bid or otherwise responded to advertisements or notices of building construction or repair projects, noting all that are minority businesses and their minority category.
 3. Prime contracts awarded, the amount of the contracts, identity of those that are minority business.
 4. The subcontractors utilized on projects, identity of minority subcontractors, type work performed by minority subcontractors amount paid minority businesses as reported by the prime contractor(s) awarded the bid.
 5. The percentage of work on the project performed by minority businesses as reported by the prime contractor. [Ref: N.C.G.S. §143-128.2(i)]

2.3 COMPLAINT PROCEDURES.

- A. INFORMAL CONTRACTS:**
1. Alleged violations of the provisions of this MBE plan by any party should be reported in writing to the County Manager or his/her designee.
 2. The County Manager or his/her designee shall review all facts available and respond in writing. Unresolved complaints may be presented to the Board of County Commissioners. The decision rendered by the Board will be final.



GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

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GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

ARTICLE 1.

DEFINITIONS

- 1.1 Agreement - The Construction Agreement, these General Conditions, and any Supplementary Conditions.
- 1.2 AIA - The American Institute of Architects.
- 1.3 ASTM - The American Society for Testing and Materials.
- 1.4 Beneficial Occupancy – The point at which the Project can be occupied by the Owner for its intended purpose, upon achievement of Substantial Completion, as defined in 1.40.
- 1.5 Change Order - A written order to the Contractor signed by the Owner and the Designer authorizing an addition, deletion, or revision in the Work and/or an adjustment in the Contract Price and/or the Contract Time issued after execution of the Construction Agreement. See paragraph 14.1.
- 1.6 Completion Date - Those dates identified as Completion Dates in the Contract Construction Schedule or elsewhere in the Contract Documents.
- 1.7 Construction Agreement – The document executed by the Contractor and the Owner to formally memorialize their consent to the terms of the Agreement.
- 1.8 Construction Change Directive – A written order to the Contractor signed by the Owner and the Designer directing an addition, deletion, or revision in the Work after execution of the Construction Agreement, in circumstances when the parties have been unable to agree on an adjustment to the Contract Price or the Contract Time, but the Owner requests that the Contractor proceed with said Work subject to adjustment of the Contract Price and/or Contract Time under the procedures described herein.
- 1.9 Construction Manager(s) - The person or firm designated as the Construction Manager in the Contract Documents, or their authorized representatives. The Construction Manager(s), as referred to herein, will be referred to hereinafter as if each were of the singular number, masculine gender.
- 1.10 Contract Construction Schedule - That schedule described in Article 13 hereof and identified as the Contract Construction Schedule.
- 1.11 Contract Documents - All of the documents that make up the Agreement, plus the Drawings and Specifications that describe the scope of the Work, plus allowable Modifications to the Contract Documents.
- 1.12 Contract Price - The total monies payable to the Contractor under the Contract Documents pursuant to paragraph 15.1 of the Agreement.
- 1.13 Contract Time - The number of calendar days stated in, or computed from, the Contract Documents for the completion of the Work, or any portion thereof. See, particularly, Article 13 hereof and the Contract Construction Schedule. Time of completion as specified therein is of the essence. The time used and referred to on the Project will be that time which is



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observed in Raleigh, North Carolina, being Eastern Daylight Savings Time (EDT), Eastern Standard Time (EST), or other as designated by the Designer.

- 1.14 Contractor - The Contractor shall be that party identified as such in the Agreement.
- 1.15 Days - Unless otherwise indicated, the term "days" shall mean consecutive calendar days.
- 1.16 Daylight Hours - The hours or portions of hours between sunrise and sunset local time.
- 1.17 Designer(s) – The person or firm designated as the Designer in the Contract Documents, or their authorized representatives. The Designer(s), as referred to herein, shall mean architect, landscape architect, and/or engineer. They will be referred to hereinafter as if each were of the singular number, masculine gender.
- 1.18 Drawings - The Drawings are the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location, and dimensions of the Work, and generally including plans, elevations, sections, details, schedules and diagrams. A list of the Drawings is contained in the Supplemental General Conditions.
- 1.19 Field Order - A written order issued by the Designer which clarifies or interprets the Contract Documents or orders minor changes in the Work in accordance with the Contract Documents. See paragraph 14.2.
- 1.20 Final Completion - The point at which the Contractor has, as determined by the Designer, completed the Work, with the exception of guaranty and warranty obligations, and becomes entitled, upon the recommendation of the Designer and determination by the Owner, to final payment.
- 1.21 The words "furnish," "furnish and install," "install," and "provide" or words with similar meanings shall be interpreted, unless otherwise stated, to mean furnish and install complete, in place and ready for service.
- 1.22 Liquidated Damages – See paragraph 13.18 of these General Conditions.
- 1.23 Modification - (A) a written amendment to the Contract Documents signed by the Owner and the Contractor and identified therein as such, (B) a Change Order, (C) Construction Change Directive, or (D) a Field Order. A Modification may only be issued after execution of the Agreement.
- 1.24 Notice of Award - The written notice by the Owner to the Contractor that the Contractor is the successful Bidder and that upon compliance with the conditions precedent to be fulfilled by the Contractor within the time specified, the Owner will execute and deliver the Agreement to him.
- 1.25 Notice to Proceed - See paragraph 13.3.
- 1.26 Owner - The Owner is the person designated as such in the Agreement.



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- 1.27 Owner's Authorized Representative - A person, or persons, employed by the Owner and designated from time to time by written notice to the Contractor to administer the Contract Documents, and to observe and monitor the Work on behalf of the Owner with authority and responsibility as herein specified.
- 1.28 Notice - The term "notice" or "written notice" as used herein shall mean and include all written notices, demands, instructions, and claims approvals and disapprovals furnished by the Owner or the Designer to obtain compliance with the requirements of the Contract Documents, as well as all written notices, demands, instructions and claims furnished by the Contractor as required by the Contract Documents. Where notice is required under the terms of the Contract Documents written notice shall always be required, and oral or "constructive" notice shall be insufficient and ineffective as notice. Email or other electronic delivery shall be insufficient and ineffective as notice unless specifically allowed by the Supplementary Conditions or a Modification to the Agreement. Written notice shall be deemed to have been duly served on the date that it is delivered in person to the individual or to a member of the firm, to an officer of the corporation for whom it is intended, to an authorized representative of such individual, firm, or corporation, or on the date that it is mailed by registered or certified mail, return receipt requested, addressed to the last business address of such individual, firm, or corporation known to the person giving the notice. Written notice may also be given by facsimile transmission, provided that proof of delivery is obtained. In the case of delivery in person, such delivery shall not be effective unless and until a written and signed receipt showing the date and time of delivery is obtained.
- 1.29 Project - The total construction of which the Work performed under the Contract Documents may be the whole or a part.
- 1.30 Project Expediter – As used herein, is an entity stated in the Contract Documents, designated to effectively facilitate scheduling and coordination of Work activities. For the purpose of a single prime contract, the single prime contractor is designated as the Project Expediter. For the purpose of a project involving separate prime contracts, the Contractor for general work shall be designated as the Project Expediter unless otherwise indicated in the Supplementary General Conditions. See paragraph 7.27.
- 1.31 Project Manager - That person designated by the Contractor in accordance with paragraph 7.2 who shall be in general charge of the Work and its performance and who shall have the authority set forth in the last sentence of paragraph 7.2.
- 1.32 Request for Information - A written communication from the Contractor to the Designer for any interpretation of, or information needed, required, or desired under the Contract Documents. The Owner reserves the right to determine the reasonable format and contents required for a Request for Information. In any Request for Information, the Contractor shall state a reasonable date by which a response is necessary in order to avoid delay in progress on the Work and shall make such request sufficiently in advance of such date as to avoid any such delay. The Designer shall respond in writing to the Request for Information by the date stated by the Contractor unless he cannot reasonably do so, in which case he shall prior to that date notify the Contractor of the date by which he can reasonably respond. The Contractor shall not be entitled to any additional time for the completion of the Work or any portion thereof by reason of the Designer's failure to respond



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if he has not submitted his Request for Information sufficiently in advance to allow the Designer a reasonable time within which to respond.

- 1.33 Request for Payment - The form, in the form of AIA Document G702 (latest ed.) or other published document approved by Owner, which is to be used by the Contractor in requesting progress payments and which is to include a Schedule of Values as required by the Contract Documents and an affidavit of the Contractor that progress payments theretofore received from the Owner on account of the Work have been applied by the Contractor to discharge in full all the Contractor's obligations incurred in connection with Work covered by all prior applications for payment. See paragraph 20.2.
- 1.34 Resident Superintendent - That person designated by the Contractor in accordance with paragraph 7.2 who has day-to-day responsibility for the prosecution of the Work and the obtaining of proper materials and equipment, and adequate labor and who shall have the authority set forth in the last sentence of paragraph 7.2.
- 1.35 Schedule of Values - Any breakdown of the Contract Price which may be required by the Contract Documents, and designated as such. See paragraph 20.1.
- 1.36 Specifications - That portion of the Contract Documents consisting generally of the written requirements for materials, equipment, construction systems, standards, and workmanship for the Work and performance of related services.
- 1.37 Subcontractor - A person, firm, or corporation who has entered into a direct contract with the Contractor to perform any of the Work at the Project.
- 1.38 Submittal - Shop drawings, product data, samples, and other documents required by the Contract Documents to be submitted by the Contractor to the Designer.
- 1.39 Submittal Register - See paragraph 13.2 of these General Conditions.
- 1.40 Substantial Completion - The point at which the Work, and Work by other Contractors on or in connection with the Project, as determined by the Designer, is sufficiently complete in accordance with the Contract Documents that it can be beneficially occupied by the Owner, and the Work can be utilized by the Owner for its intended use, and all necessary permits and permissions for Beneficial Occupancy and utilization having been obtained by the Contractor. All operations and maintenance manuals, Owner training, and as-built drawings must be submitted prior to Substantial Completion being achieved.
- 1.41 Sub-subcontractor - A person or entity that has a direct or indirect contract with a Subcontractor to perform any of the Work at the Project.
- 1.42 Work - The construction and services required by the Contract Documents, including all labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations.
- 1.43 All references in the Contract Documents to the masculine shall be interpreted as including the feminine or neuter and all references in the Contract Documents to the singular or the



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plural shall be interpreted as including the other, as may be appropriate in the reasonable interpretation of the Contract Documents.

ARTICLE 2. CORRELATION, INTERPRETATION AND INTENT OF CONTRACT DOCUMENTS

- 2.1 It is the intent of the Specifications and Drawings and other Contract Documents to describe a complete Project in accordance with the Contract Documents.
- 2.2 The Contract Documents are complementary; what is called for by one is as binding as if called for by all. If the Contractor finds a conflict, error or discrepancy in the Contract Documents, the Contractor shall notify the Designer in writing before proceeding with the Work affected thereby. In resolving such conflicts, errors and discrepancies, the Contract Documents shall be given preference in the following order: Construction Agreement, Modifications, Addenda, Supplemental Conditions, General Conditions, Specifications, and Drawings. Figure dimensions on Drawings shall govern over scale dimensions, and detailed Drawings shall govern over general Drawings. Any Work that may reasonably be inferred from the Contract Documents as being required to produce the intended result shall be supplied whether or not it is specifically called for. Work, materials or equipment described in words which, so applied, have a well known technical trade meaning shall be deemed to refer to such meaning and to incorporate any recognized standards which are a part of such meaning.
- 2.3 Miscellaneous items, accessories and work which are not specifically mentioned, but which are essential to produce a complete and properly operating installation, or useable structure or plant providing the indicated function shall be furnished and installed without change in the Contract Price. Such miscellaneous items and accessories shall be of the same quality standards, including material, style, finish, strength, class, weight and other applicable characteristics, as specified for the major component of which the miscellaneous item or accessory is an essential part, and shall be approved by the Designer before installation. This requirement is not intended to include major components not covered by or inferable from the Contract Documents.
- 2.4 The Work of all trades under the Contract Documents shall be coordinated by the Contractor in such a manner as to obtain the best workmanship possible for the entire Project and all components of the Work shall be installed or erected in accordance with the best practices of the particular trade.
- 2.5 The Contractor shall fully complete the Work and shall be responsible for all of the Work under the Contract Documents to which the Construction Agreement applies. If the Contractor is prevented from doing so by any limitation of the Contract Documents, the Contractor shall immediately give notice thereof to the Designer and the Owner in writing before proceeding with the construction in the area where the problem or limitation exists.
- 2.6 Standard specifications or manufacturers' literature, when referenced, shall be of the latest revision or printing unless otherwise stated and is intended to establish the minimum requirements acceptable.



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- 2.7 For those materials specified without the use of brand names, the Contractor shall submit within thirty (30) days after his receiving the Construction Agreement for signatures, any product that meets the express requirements of the Specifications.

Such Submittal shall include manufacturer's data, test reports, performance data and certifications, samples, erection details, and other applicable information as required to permit determination by the Designer whether such proposed products are suitable. The Designer shall be the sole judge as to the suitability of any proposed product. The burden of proof of quality rests with the Contractor.

- 2.8 The Contractor is required to examine and read the complete set of Contract Documents for information concerning the Work, because some of the Work for which the Contractor will be responsible may be indicated on or in documentation applying primarily to the Work of one or more other separate prime contractors. No allowance will be made for the Contractor's failure to become familiar with the complete set of project documents.

- 2.9 Contractor's requests for clarification or information shall clearly define the cause(s) of Contractor's request and, as appropriate, shall include Contractor's interpretation and Contractor's proposed solution.

ARTICLE 3. FAMILIARITY WITH WORK, CONDITIONS AND LAWS

- 3.1 The Contractor has investigated prior to bidding and is satisfied with all conditions affecting the Work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electrical power, roads and uncertainties of weather, or similar physical conditions at the Project site, and the character of equipment and facilities needed prior to and during prosecution of the Work. The Contractor is satisfied as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from inspection of the Project site, including all exploratory work done by the Owner, as well as from information presented by the Contract Documents, or any other information made available to the Contractor prior to receipt of bids. Any failure by the Contractor to become acquainted with the available information shall not relieve the Contractor from the responsibility for estimating properly the difficulty or cost of successfully performing the Work.

- 3.2 The Contractor shall be entitled to rely upon all information furnished to the Contractor in writing by the Owner with respect to the Project site and to make all inferences from it that would reasonably be made by a contractor having knowledge and experience with similar work; however, the Contractor shall not be entitled to infer from Owner-supplied information any fact or condition which would not be inferred by a contractor having knowledge and experience with similar work and, if the Owner-supplied information is inadequate or insufficient in any respect, the Contractor shall be required to obtain independently such other information as a knowledgeable and experienced contractor would prudently obtain in order to evaluate any such condition.

- 3.3 The Contractor specifically acknowledges familiarity with all Federal, State, and local laws, ordinances, rules, and regulations which may in any manner affect those engaged or



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employed in the Work, or the materials or equipment in or about the Work, or in any way affect the conduct of the Work and agrees that the Contractor and the Contractor's employees, subcontractors, and suppliers will, at all times, comply with same. If the Contractor shall discover any provisions in the Contract Documents which are contrary to or inconsistent with any such law, ordinance, rule, or regulation, the Contractor shall immediately give notice thereof to the Designer and the Owner in writing, identifying any items of Work affected, and the Contractor shall not proceed until the Contractor has received written direction from the Designer with respect to these items. If the Contractor performs contrary to or inconsistently with any such law, ordinance, rule, or regulation without giving such notice, the Contractor shall bear all costs which are a consequence of such performance.

- 3.4 At times selected by the Designer after execution by the Contractor of the Construction Agreement, a pre-construction conference shall be scheduled and conducted for the benefit of the Project.

ARTICLE 4. BONDS

- 4.1 A performance bond in the full amount of the Contract Price shall be required of the Contractor to guarantee the faithful performance of the Work in compliance with the Contract Documents, in such form as may be required by law and approved by the Owner. The bond shall be dated the same date as the Construction Agreement and must be accompanied by a current copy of the power of attorney for the attorney-in-fact executing such bond on behalf of a surety company licensed to do business in the state of North Carolina.
- 4.2 A payment bond in the full amount of the Contract Price shall be required of the Contractor to guarantee the payment of all labor and material costs or claims in connection with compliance with the Contract. The payment bond shall be in such form as may be required by law and approved by the Owner. Said bond shall be dated and executed in the same manner as the performance bond in paragraph 4.1.

ARTICLE 5. INSURANCE AND INDEMNITY

5.1 CONTRACTOR PROVIDED INSURANCE

The Contractor shall, without limiting its obligations or liabilities, procure, pay for and maintain such insurance as is required by law and as is required by this Agreement to protect the Contractor and the Owner from claims for damages for bodily injury, including death, and from claims for property damage which may arise from the Contractor's or its representatives', consultants', Subcontractors', agents', or employees' operations under this Agreement. Such insurance shall be of the kinds and have limits of liability and coverages not less than the minimum limits hereinafter specified or required by law, whichever is greater. The Owner makes no representation as to the adequacy or sufficiency of such coverages. The following requirements shall in no way be construed to limit or eliminate the liability of the Contractor, which arises from performance of Work under the Agreement. The Contractor is strictly responsible for any losses, claims, and costs of any kind which exceed the Contractor's limits of liability, or which may be outside the coverage scope of the policies.



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The insurance specified shall be provided by an insurer approved by the Owner, authorized to do such business in the State of North Carolina, and on terms approved by the Owner. Insurance companies utilized shall have a minimum rating of A- and Class VII as evaluated by the most current A.M. Best Rating Guide. If the insurer has a Best Rating less than A- and Class VII, the Contractor must receive specific written approval from the Owner prior to proceeding with any Work under the Agreement. All agents and brokers shall hold valid licenses from the State of North Carolina. Before commencing mobilization to the Project site and not later than 7 days after the receipt of the Construction Agreement by the Contractor for signatures, the Contractor shall furnish to the Owner a certificate or certificates of insurance in a form satisfactory to the Owner. Upon request of the Owner, the Contractor shall provide the Owner with certified copies of the insurance policies required by this Article, including without limitation declaration pages, conditions, exclusions and endorsements, and confirmation that each policy premium has been paid for the required term of this Agreement. A copy of the umbrella policy shall be provided to the Wake County Finance Department. Certificates shall be signed by a person authorized by that insurer to bind coverage on its behalf. In the event of any such cancellation, non-renewal, reduction, restriction, or change in any insurance, the Contractor is obligated to replace such insurance within 7 days without a gap in coverage and file accordingly such notice with the Owner, and other interested parties. Failing immediate receipt of evidence of such replacement of insurance the Owner reserves the right to procure such insurance as the Owner considers desirable and the Contractor shall pay or reimburse the cost of the premium in respect thereof. It is expressly provided, however, that any action or inaction on the part of the Owner in this respect shall in no way change or reduce the Contractor's responsibilities and liabilities under this Agreement. Self-funded, policy fronting, or other non-risk transfer insurance mechanisms are not acceptable without prior written approval of the Owner. Full disclosure of such a program must be made prior to commencing mobilization to the Project site. Failure to make a full disclosure constitutes a material breach of the Agreement, justifying termination for default.

The Contractor shall name the Owner, the Designer, the Designer's consultants, and the Construction Manager as additional insureds under all its insurance contracts (except workers' compensation) with respect to and including without limitation liability arising out of activities performed by or on behalf of the Contractor, products and completed operations of the Contractor, and automobiles owned, hired, leased, or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to additional insureds.

For any claims related to this Project, the Contractor's insurance or self insurance shall be primary and noncontributory with respect to the Owner's insurance. Any insurance or self-insurance maintained by the Owner shall be excess and noncontributory with respect to the Contractor's insurance.

All policies of insurance shall contain a clause waiving rights of subrogation against the Owner, unless the Owner approves otherwise in writing.

Limits of coverage are not to be amended by deductible clauses of any nature without the express written consent of the Owner. The Contractor shall be solely responsible for any deductible assumptions that may exist in any insurance policies required under this



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Agreement. In addition, the Contractor shall be responsible and shall not be reimbursed for any losses arising from any risk or exposure not insured as required herein, or not covered as a result of a normal policy exclusion or that falls within the self insured retention, if Contractor self insured.

The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

The claim provisions in the Contractor's insurance policies must specifically state the insurance company or Contractor's Third Party Administrator, if self insured, has both the right and duty to adjust a claim and provide defense.

The policies shall not contain any provision or definition which would serve to exclude or eliminate from coverage third party claims, including exclusions of claims for bodily or other injury to shareholders, partners, officers, directors, or employees of the insured, the premises owner, real estate manager, or the insured's Subcontractor, or any family relative of such persons.

If the policies contain any warranty stating that coverage is null and void (or words to that effect) if the Contractor does not comply with the most stringent regulations governing the Work, it shall be modified so that coverage shall be afforded in all cases except for the Contractor's willful or intentional noncompliance with applicable government regulations.

Any failure by any person to comply with reporting or other provisions of the policy including breach of warranties, shall not affect coverage provided to the Owner and its representatives, officials, and employees.

The insolvency or bankruptcy of the Insured or of the Insured's estate shall not relieve the insurance companies of their obligations under these policies. Any clauses to the contrary are unacceptable and must be stricken.

Failure to comply with these requirements shall be a material breach of this Agreement justifying termination for default.

5.1.1 Worker's Compensation and Employers' Liability Insurance

The Contractor and its Subcontractors shall procure and maintain Workers' Compensation Insurance in the amount and type required by the State of North Carolina and federal law for all employees employed under the Agreement who may come within the protection of Workers' Compensation Laws and covering all operations under the Agreement whether performed by the Contractor or by his Subcontractors. In jurisdictions not providing complete Workers' Compensation protection, the Contractor and his Subcontractors shall maintain employers' liability insurance in an amount, form, company, and agency satisfactory to the State of North Carolina and the Owner for the benefit of all employees not protected by Workers' Compensation Laws and covering all operations under the Agreement whether performed by the Contractor or by his Subcontractors.

The Contractor shall pay such assessments as will protect the Contractor and the Owner from claims under the Workers' Compensation Laws, workers' or workmen's compensation



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disability benefits, and other similar employee benefit acts. The current Experience Modification Factor shall be indicated on the Certificate of Insurance.

Coverage under this section shall be as required by federal and state Workers' Compensation and Occupational Disease Statutes, and shall have minimum limits as follows:

Coverage A:	Statutory, State of North Carolina
Employers' Liability:	Each Accident \$1,000,000
	Disease - Policy Limit \$1,000,000
	Disease - Each Employee \$1,000,000

Such insurance shall include Voluntary Compensation coverage, a Waiver of Subrogation in favor of the Owner as well as other endorsements that may be required by applicable jurisdictions, i.e. United States Longshoremen and Harbor Workers Act and maritime coverage (Jones Act).

5.1.2 Automobile Liability Insurance

The Contractor shall procure and maintain automobile insurance against liability for bodily injury and property damage as described below, that may arise with respect to the Work being performed under the Agreement, and as will provide protection from claims which may arise out of or result from the Contractor's performance of the Work and the Contractor's other obligations under the Agreement, whether such performance of the Work is by the Contractor, by any representative or Subcontractor, by anyone, both officially and personally, directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

This policy of insurance shall carry the following minimum Limit of Liability:

Combined Single Limit	\$1,000,000
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The policy of insurance shall contain or be endorsed to include the following:

- a) owned, hired, and non-owned automobile liability.
- b) If the policy contains a warranty stating that coverage is null and void (or words to that effect) if the transporter does not comply with the most stringent regulations governing the Work, it shall be modified so that coverage shall be afforded in all cases except for the transporter's willful or intentional noncompliance with applicable government regulations.

Any failure by any party to comply with reporting or other provisions of the policy including breach of warranties, shall not affect coverage provided to the Owner and its representatives, officials, and employees.

No subcontracting of waste hauling shall be permitted without prior, written approval of the Owner.



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5.1.3 General Liability

This policy must be written on an Occurrence basis, with the following minimum Limits of Liability:

General Aggregate per project	\$2,000,000.00
Products/Completed Operations Aggregate	\$2,000,000.00
Bodily Injury and Property Damage csl/each occurrence	\$1,000,000.00
Personal Injury and Advertising Injury	\$2,000,000.00

The policy of insurance shall contain or be endorsed to include the following:

- a) Blanket Contractual Liability covering Contractor's indemnification obligations under this Agreement, in accordance with ISO policy form CG 00 01. Modifications to the standard provision will not be acceptable if they serve to reduce coverage.
- b) Premises/Operations Liability.
- c) Explosion, collapse, and underground fault.
- d) Independent Contractors and Independent Subcontractors coverage.
- e) Broad Form Property Damage.
- f) Personal Injury
- g) Cross Liability/Severability of Interest clause.
- h) Employer's Stop-Gap Liability endorsement, if applicable.
- i) Amendment of the Pollution Exclusion Endorsement to allow coverage for bodily injury or property damage caused by heat, smoke, or fumes from a hostile fire.
- j) Designated General Aggregate Limit Endorsement if required by the Supplemental General Conditions.

Coverage shall remain continuously in effect and without interruption for at least 6 years from the date of the Notice of Award and shall include coverage for exposures arising from operations that have been completed. The Contractor shall furnish the Owner and each other additional insured listed in the Agreement to whom the Certificates have been issued, evidence satisfactory to the Owner of continuation of such insurance at the date of Preliminary Acceptance and each year thereafter.

5.1.4 Pollution Legal Liability (PLL)

Pollution Legal Liability coverage will be provided if required by the Supplementary General Conditions.

5.1.5 Umbrella Liability



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The Contractor shall maintain an occurrence basis (as distinguished from a "claims made" basis) Umbrella Liability policy (true follow form) over the underlying General Liability, Automobile Liability, and Employer's Liability, with the following limits of liability:

Each Occurrence	\$3,000,000
Aggregate	\$3,000,000

On a fully insured basis such coverage will be subject to a deductible no greater than \$10,000 per occurrence where coverage is not provided by the underlying insurance, but is provided by the Umbrella Liability policy.

The Contractor may use any combination of primary and umbrella insurance policies to comply with the insurance requirements, provided the resulting insurance is equivalent to the insurance stated herein.

All Occupational Disease exclusions must be deleted. Any Pollution Exclusion must be amended to allow coverage for bodily injury or property damage caused by spill, upset, overturn, heat, smoke, or fumes from a hostile fire.

5.1.6 Property Insurance

The Contractor shall purchase All Risk Property Insurance on a Completed Value Form in the names of the Owner, Contractor, Subcontractors, and sub-subcontractors as their interests may appear with limits as follows:

- a) Full insurance value of the Work, or
- b) Amount equal to the Contract Price for the Work, whichever is higher.

The Contractor is responsible for all physical damage to owned or rented machinery, tools, equipment, forms, and other items owned, rented or used by the Contractor and/or Subcontractor(s) in the performance of the Work. The insurance coverage evidencing such shall include a waiver of subrogation in favor of the Owner.

5.1.7 Valuable Papers And Records

The Contractor shall provide valuable papers and records insurance with coverage in an amount commensurate with project scope and set forth in the Supplementary General Conditions.

5.1.8 Claims

The Contractor shall notify the Owner within 24 hours of any claims or alleged claims received by the Contractor covered by any of the policies of insurance required in this Agreement. The Contractor shall provide a written copy of the claim or alleged claim to the Owner within 3 days of the Contractor's receipt of the claim or alleged claim. If a claim is



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settled to the satisfaction of the claimant, the Contractor shall submit a copy of the claimant's release to the Owner.

If a claim or alleged claim is rejected by the Contractor and/or its insurance company, the Contractor shall immediately report this fact to the Owner.

Should 30 days elapse after the claim or alleged claim has been received by the Contractor, and the Contractor is not able to report a settlement or rejection of the claim, it shall report to the Owner the steps being taken with respect to the claim.

Without limiting the foregoing, the Contractor shall notify in writing the county risk manager of any paid or incurred claims which may impair annual aggregate or general liability.

5.1.9 Deductibles and Self-insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by the Owner. At the option of the Owner, either: the insurer shall reduce to a maximum of \$250,000 or eliminate such deductibles or self-insured retentions with respect to the Owner, or the Contractor shall provide evidence of collateral provided to insurers or procure a bond guaranteeing payment of losses and related investigations, claim administration, and defense expenses within the deductible or self-insured retention amount. Any self-insured retention or deductible amount on the policy shall not reduce the amount of collectible limits or liability.

5.1.10 Subcontractors

The Contractor shall include all Subcontractors as Insureds under its policies, or shall furnish separate certificates, policies, and endorsements for each Subcontractor the Contractor intends to use. If a Subcontractor does not take out insurance in his own name and the Contractor wishes to provide insurance protection for such Subcontractor and such Subcontractor's employees, the Contractor shall either (a) procure appropriate policies in the name of the Subcontractor, or (b) cause a rider or riders to be attached to the Contractor's policies which shall identify the Subcontractor thereby covered; provided, however, in the case of the latter option, such a rider need not be attached to the Contractor's workers' compensation policy if such policy by its terms is sufficiently broad to cover the employees of all Subcontractors performing Work under the Contract Documents. Except as otherwise approved by the Owner in writing, Limits of Liability and coverage scope must be at a minimum as stringent as required of the Contractor by the Contract Documents. All Work performed for the Contractor by any Subcontractor shall be pursuant to an appropriate agreement between the Contractor and the Subcontractor which shall contain provisions that waive all rights the contracting parties may have against one another for damages caused by fire or other perils covered by insurance as provided herein. Insurance monies received from any loss shall be divided as the respective interest of the parties affected shall appear.

5.2 OWNER CONTROLLED PROJECT SPECIFIC INSURANCE



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In the event the Owner elects to purchase project-specific insurance affording coverage to the Contractor and Subcontractors, the terms and conditions of such coverage shall be set forth in the Supplementary Conditions.

5.3 CONTRACTOR AS JOINT VENTURE

If the Contractor is completing this Project on a joint venture basis, both joint venture partners retain all liabilities assumed by this Agreement, individually and collectively. This may include, but is not limited to, all premiums due, deductibles/self-insured retentions, coinsurance provisions, claim provisions, insurance policy conditions, and indemnification provisions hereunder.

Evidence of a Blanket Joint Venture Endorsement must be obtained from the General Liability and Contractor's Pollution Legal Liability carriers of each joint venture partner for a period of 6 years after completion of the Project, substantially as follows:

With respect to "your work", and the "products-completed operations hazard", you are an insured for your liability arising out of the conduct of any partnership or joint venture of which you were a partner or member, even though this partnership or joint venture is not shown as a Named Insured in the Declarations. This coverage is excess over any available liability purchased specifically to insure the partnership or joint venture. This coverage will not inure to the benefit of any other party except you."

5.4 INDEMNIFICATION

The Contractor, to the fullest extent not expressly prohibited by law, shall defend, indemnify, and save harmless the Owner, the Designer, the Construction Manager and their respective officials, officers, employees, and agents from and against any and all liabilities (foreseeable or unforeseeable), penalties, fines, forfeitures, demands, claims, causes of actions, suits, judgments, and costs and expenses incidental thereto, (including, without limitation, amounts paid pursuant to investigations, defense or settlements, and reasonable attorneys' fees), which any or all of them may hereafter suffer, incur, be responsible for, or pay out as a result of but not limited to:

- a) bodily injury (including sickness, disease, or death) to any person including but not limited to, the Contractor's employees or its representatives while on the site of the Project; or
- b) actual or alleged damage (including loss of use) to any property (public or private, including the Project or other property on the Project site); or
- c) contamination of or adverse effects on the environment arising directly or indirectly out of or in connection with the performance of the Work, including but not limited to any hazardous or toxic waste, substance, or constituent of any substance subject to regulation under CERCLA, RCRA, TSCA, and other Federal and state authorities that is spilled, released, threatening to release, or disposed of or destroyed by the Contractor or its Subcontractors on or off the site of the Project or while in transport to or from the site; or



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- d) any violation or alleged violation of laws and regulations, arising out of or in any way connected with the Work,

caused in whole or in part by the Contractor, any Subcontractor or supplier or any representatives of the Contractor. The Contractor shall not be required to indemnify the Owner against losses resulting from a breach of this Agreement by the Owner or its other agents and contractors, or resulting from negligence, misconduct or violation of laws on the part of the Owner or its other agents and contractors.

The Contractor further agrees to obtain, maintain, and pay for such liability insurance coverages and endorsements as will insure the provisions of this paragraph. Furthermore, the Contractor agrees to be liable for and to indemnify and reimburse the Owner for all legal fees and disbursements paid or incurred to enforce the provisions of this paragraph. The indemnification obligations under this paragraph shall not be limited in any way by the amount or type of damages, compensation or benefits payable under worker's compensation acts, disability benefit acts, other employment benefit acts, or the amount of insurance carried or recovered.

The Owner acknowledges that hazardous or toxic waste, material, chemicals, compounds or substances, or other environmental hazards, contamination or pollution, (referred to hereinafter as "environmental hazards") may be present at the Project site that were not created, generated, or released at the Project site by the Contractor or its Subcontractors, agents or employees, acting alone or in concert with others. Unless the remediation, abatement or handling of such environmental hazards is part of the scope of the Work under this Agreement, then upon the discovery of such environmental hazards, the Contractor shall immediately, and in no event more than three days later, give notice to the Owner of the environmental hazards before they are disturbed. The Owner and the Designer shall thereupon promptly investigate the environmental hazards, and make such changes in the Drawings and/or Specifications as they may find necessary to abate, remediate, isolate or handle the environmental hazards. Any increase or decrease in the Contract Price or the Contract Time resulting from such changes shall be adjusted in the manner provided herein for adjustments as to extra and/or additional Work and changes. It is agreed that the Contractor shall have no liability under this Agreement for any environmental hazards existing prior to the date that Work commences under this Agreement unless the Contractor or its Subcontractors, agents or employees, acting alone or in concert with others, by their own negligence or misconduct, release or expose the Owner or third parties to the environmental hazards.

The provisions of this paragraph shall survive the termination or cancellation or completion of this Agreement.

ARTICLE 6. OTHER RECORD DOCUMENTS AND SUBMITTALS

- 6.1 The Designer shall furnish to the Contractor the number of copies of Drawings and Specifications stated in the Supplementary General Conditions. Additional copies of Drawings and Specifications may be obtained at the cost of reproduction and handling.



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- 6.2 The Contractor shall submit to the Designer all Submittals required by the Contract Documents. The Contractor shall submit three (3) reproducible prints of all shop drawings plus the number of copies sufficient for his requirements. The Contractor shall submit samples in quantities required by the Contract Documents. The Contractor shall submit product data in five (5) copies, plus the number of copies sufficient for the Contractor's requirements. All shop drawings shall be reviewed by the Contractor and shall bear the Contractor's stamp of approval before being forwarded to the Designer. Submittals shall be submitted in such time as to cause no delay to the Work or any part thereof and in accordance with the Contract Construction Schedule and Submittal Register. The Designer shall review the submittal with reasonable promptness, noting desired corrections, if any. The Designer shall retain two (2) copies of the submittal and shall return the balance of the reviewed submittal to the Contractor for action. The Contractor shall furnish any corrected submittal to the Designer. The Designer shall retain two (2) copies of the corrected submittal and will return the balance of the reviewed submittal to the Contractor.

No substitutions will be accepted after the bids have been received. All substitutions prior to the receipt of bids shall be in accordance with the Contract Documents. Refer to Instructions to Bidders, Paragraph 3, Substitutions.

The Contractor acknowledges that the processing of shop drawings and other submittals is directly impacted by the clarity, completeness, and accuracy of said documents and that it is the Contractor's responsibility to (i) review and coordinate each submittal with all other related or affected Work and (ii) approve each submittal before submitting same to the Designer for approval.

- 6.3 No substitutions and no deviations from any requirement of the Contract Documents shall be deemed allowed unless the Contractor has specifically informed the Designer and the Owner in writing of such deviations at the time of submittal and the Designer and the Owner have given written and specific approval to the substitutions or deviations. In proposing a deviation or substitution the Contractor warrants to the Owner, notwithstanding any review, allowance or approval by the Designer or the Owner that the deviation or substitution is at least equal to or better in quality and for the purpose intended, and that Contractor shall not by reason of any such review, allowance or approval be relieved from any obligation or responsibility contained in the Contract Documents.
- 6.4 Review of submittal by the Designer shall not be construed as relieving the Contractor from responsibility for compliance with terms or designs of the Contract Documents nor from responsibility for errors of any sort in the submittal.
- 6.5 The Contractor shall keep one record copy marked "As-Built" of all Specifications, Drawings, Addenda, Modifications, and Submittals at the Project in good order and annotated at least monthly to show all changes made during the construction process. Such monthly annotations and their approval by the Designer shall be a condition precedent to approval by the Designer of each monthly Request for Payment. Said record copy shall be stored at the Project and fully protected from damage by fire or other hazard. This record copy shall be available to the Designer and Owner for inspection at all times and shall be delivered to the Designer for the Owner's purposes prior to the Designer's certifying Substantial Completion of the Work.



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- 6.6 At completion of the Project and before Final Payment, the Contractor shall assemble and deliver to the Owner one complete set of all as-built drawings and one complete set of all approved submittals, product data, and samples which were reviewed by the Designer. These drawings and submittals shall be on paper, or in electronic or other media if required by the Supplementary Conditions. These drawings and submittals shall be categorized and packaged as directed by the Designer.

ARTICLE 7. CONTRACTOR

- 7.1 The Contractor shall supervise and direct the Work efficiently and with the Contractor's best skill and attention. Except as may be set forth specifically in the Contract Documents, the Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction, and for safety precautions and programs in connection with the Work. The Contractor shall be responsible to see that the finished Work complies accurately with the Contract Documents.

- 7.2 The Contractor shall appoint a Project Manager and shall keep on the Project at all times during its progress a competent Resident Superintendent and necessary assistants who shall not be replaced without prior written approval by the Owner except under extraordinary circumstances, in which event immediate written notice shall be given to the Designer and the Owner. The Project Manager and the Resident Superintendent may be the same person or different persons. At any time, the Owner, in its sole and absolute discretion, may require the Contractor to replace the Project Manager or Resident Superintendent with an experienced and competent person or persons upon seven (7) days written notice from the Owner to the Contractor. Such replacement shall be at the Contractor's expense and at no cost to the Owner.

Both the Project Manager and the Resident Superintendent shall have authority to act on behalf of the Contractor, and instructions, directions or notices given to either of them shall be as binding as if given to the Contractor.

- 7.3 The Contractor shall provide sufficient competent and suitably qualified personnel, equipment, and supplies to lay out the Work and perform construction as required by the Contract Documents. The Contractor will at all times maintain good discipline and order at the site, and will comply with all applicable OSHA standards.

Any person employed by the Contractor, any Subcontractor, or any sub-subcontractor who, in the opinion of the Designer or the Owner, does not perform his Work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Owner or Designer, be removed forthwith by the Contractor, Subcontractor, or sub-subcontractor employing such person without cost to the Owner, and shall not be employed again in any portion of the Work without the written approval of the Owner or Designer.

Should the Contractor fail to remove such person or persons or fail to furnish suitable and sufficient personnel for the proper prosecution of the Work within three (3) days after written order, the Owner may withhold further payment by written notice until compliance with such order.



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- 7.4 If, in the opinion of the Designer or the Owner, any Subcontractor on the Project is incompetent or otherwise unsatisfactory, he shall be replaced by the Contractor with no increase in the Contract Price if and when directed by the Designer or the Owner in writing.
- 7.5 The Contractor shall furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools appliances, fuel, light, heat, and all other facilities and incidentals necessary for the execution, maintenance, initial operation, and completion of the Work, other than those specifically excluded by the Contract Documents and to be furnished by the Owner or others. When use or storage of hazardous materials or equipment or methods of more than ordinary risk are necessary in accomplishing the Work, the Contractor shall give the Owner and Designer reasonable advance notice.

If any materials are to be furnished or installed by the Owner or others under the terms of the Contract Documents, said materials shall be made available to the Contractor at the location(s) specified in the Contract Documents. All costs of handling, transportation from the specified location to the Project, storage, and installing of Owner-furnished materials shall be included in the Contract Price. The Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies which may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner shall deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good any such damage, loss, or deficiency.

All equipment which is proposed to be used in the Work shall be of sufficient size and in such mechanical condition as to meet the requirements of the Work and produce a satisfactory quality of work. Equipment used on any portion of the Work shall be such that no injury to previously completed Work, adjacent property, or existing facilities shall result from its use.

When the methods and equipment to be used by the Contractor accomplishing the Work are not prescribed in the Contract Documents, the Contractor shall be free to use any methods or equipment that will accomplish the Work in conformity with the requirements of the Contract Documents.

When the Contract Documents specify the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Designer. If the Contractor desires to use a method or type of equipment other than specified in the Contract Documents, the Contractor may request authority from the Designer to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it shall be on the condition that the Contractor shall be fully responsible for producing Work in conformity with the requirements of the Contract Documents. If, after trial use of the substituted methods or equipment, the Designer determines that the Work produced does not meet the requirements of the Contract Documents, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining Work with the specified methods and equipment at no additional cost to the Owner. The Contractor shall remove any deficient Work and replace it with Work of specified quality, or take such other corrective action as the Designer may direct. No change in the Contract Price or in Contract Time shall be made as a result of authorizing a change in methods or equipment under this paragraph.



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- 7.6 All materials and equipment shall be new, except as otherwise provided in the Contract Documents. When special makes or grades of material which are normally packaged by the supplier or manufacturer are specified or approved, such materials shall be delivered to the Project site in their original packages or containers with seals unbroken and labels intact.
- Materials shall be so stored as to assure the preservation of their quantity, quality and fitness for the Work. Stored materials, even though approved before storage, may again be inspected by the Designer or Owner prior to their use in the Work and shall meet the requirements of the Contract Documents at the time they are incorporated into the Work. Stored materials shall be located so as to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the Designer and the Owner. Materials to be stored at the Project or on the Owner's property shall not create an obstruction to the Owner's or other contractor's reasonable activities. Private property shall not be used for storage purposes without written permission of the owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the Owner a copy of the property owner's permission. All storage sites on private or the Owner's property shall be restored to their original condition by the Contractor at his entire expense, except as otherwise agreed to (in writing) by the owner or lessee of the property.
- 7.7 All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator, or processor, except as otherwise provided in the Contract Documents.
- 7.8 The Contractor will be fully responsible for all acts and omissions of his Subcontractors and of persons directly or indirectly employed by them and of persons for whose acts any of them may be liable to the same extent that the Contractor is responsible for the acts and omissions of the Contractor's own employees. Nothing in the Contract Documents shall create any contractual relationship between any Subcontractor or supplier and the Owner or the Designer, or any obligation on the part of the Owner or the Designer to pay or see to the payment of any money due any such Subcontractor or material furnisher except as may otherwise be required by law. The Owner or the Designer may furnish to any Subcontractor or supplier, to the extent practicable, evidence of amounts paid to the Contractor on account of specific Work done.
- 7.9 The divisions and sections of the Specifications and the identifications of any Drawings shall not control the Contractor in dividing the Work among Subcontractors.
- 7.10 The Contractor agrees to bind specifically every Subcontractor to the terms and conditions of the Contract Documents for the benefit of the Owner and to furnish written evidence thereof to the Designer and the Owner within seven (7) days after written request by the Owner.
- 7.11 The Contractor shall attend job progress conferences and all other meetings or conferences as directed by the Designer. The Contractor shall be represented at these job progress conferences by a representative having the authority of the Project Manager and by such other representatives as the Designer may direct. Job progress conferences shall



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be open to Subcontractors, suppliers and any others who may contribute beneficially toward maintaining required job progress, and such personnel shall be encouraged by the Contractor to attend. It shall be the principal purpose of job progress conferences 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 Work and the Project by the specified Completion Dates. The Contractor shall be prepared to assess progress of the Work as required in the Contract Documents and to recommend remedial measures for correction of progress as may be appropriate. The Designer shall preside as chairman and arrange for minutes to be taken and circulated.

In the event that the prosecution of the Work is discontinued for any reason, the Contractor shall notify the Designer and the Owner at least forty-eight (48) hours in advance of resuming operations.

Should the terms of the Contract Documents require completion of one or more portions of the Work for the Beneficial Occupancy of the Owner prior to completion of the entire Work, the Contractor shall complete such portion(s) of the Work on or before the date specified. Such completion shall include the obtaining of all government or other permits, permission, and/or approvals necessary to occupancy. The Contractor shall independently estimate the difficulties involved in arranging the Work to permit such Beneficial Occupancy and shall not claim any additional compensation or time extension by reason of any delay or increased cost due to completing such portion(s) of the Work. The Owner's possession and use of such portion(s) of the Work shall not be deemed an acceptance of any Work not completed in accordance with the Contract Documents. The Owner shall be responsible for the security, maintenance, utilities, and insurance of all portions of the Work completed and beneficially occupied by the Owner.

- 7.12 The Contractor shall pay all license fees and royalties, and assume all costs incident to the use of any invention, design process, or device which is the subject of patent rights or copyrights held by others, except for inventions, design processes, or devices specified by the Designer in the Contract Documents. The Contractor shall indemnify and hold harmless the Owner, the Designer, and anyone directly employed by either of them, from and against all claims, damages, losses and expenses, including attorney's fees and costs of defense, arising out of any infringement or alleged infringement of such rights during or after completion of the Work, and shall defend all such claims in connection with any actual or alleged infringement of such rights.
- 7.13 The Contractor shall secure and pay for all permits, including without limitation construction permits and licenses, and will pay all governmental charges and inspection fees necessary for the prosecution of the Work.
- 7.14 The Contractor shall give all notices and comply with all laws, ordinances, rules, and regulations applicable to the Work and shall protect and indemnify the Owner and the Owner's officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or by the Contractor's employees, Subcontractors, sub-subcontractors, or their employees.



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- 7.15 The Contractor shall be responsible for the entire site of the Project and for its reasonable and necessary protection and security, as required by laws or ordinances governing such conditions, or by custom or sound construction practices, and shall share such responsibilities as may be agreed upon among them, or in the absence of such agreement, as may be directed by the Contract Documents, Owner, or Designer. The Contractor shall be responsible for any damage to the Owner's property, or that of others, by the Contractor or the Contractor's employees, Subcontractors, sub-subcontractors, or their employees or agents, and shall make good such damages. The Contractor shall be responsible for and pay for any such claims against the Owner.
- 7.16 The Contractor shall protect all landscaping designated to remain in the vicinity of the operations and barricade all walks, roads, and areas as necessary to keep the public away from the construction.
- 7.17 The Contractor shall provide cover and/or protect all portions of the Work and provide all materials necessary to protect the Work whether performed by the Contractor or any of the Subcontractors or sub-subcontractors. Any Work damaged through the lack of proper protection, or from any other cause, shall be repaired or replaced without extra cost to the Owner or extension to the Contract Time.

The Contractor shall maintain the Work during construction and until the Work is accepted. This maintenance shall constitute continuous and effective effort prosecuted day by day, with adequate equipment and forces so that the Work is maintained in satisfactory condition at all times. All costs of maintenance shall be included in the Contract Price and the Contractor will not be paid an additional amount for such effort. Should the Owner or Designer observe that the Contractor at any time has failed to maintain the Work as provided herein, the Designer may immediately notify the Contractor of such non-compliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. Should the Contractor fail to properly respond to the Designer's notification, the Owner may, at the Contractor's expense, take such action as it may deem appropriate to remedy the defective maintenance, including suspension of the Contractor's Work or any part thereof. Any such expense incurred by the Owner shall be deducted from monies due or to become due the Contractor.

Parking lots, streets, and walks connecting to the Project area shall be protected by the Contractor from deposits of mud, sand, stone, litter, or debris in any form.

Pedestrian traffic areas around the construction limits must be maintained in a clean and safe condition at all times with required barricades and covered walkways. When excavation or other operations outside the Project limits is required, the Contractor shall, immediately following that work, return the area to its original condition.

All catch basins and storm drain lines in the vicinity of the Project site shall be protected at all times from entry of dirt, rubble and other debris. The residue from the cleaning of trucks, wheelbarrows, concrete buggies, etc. must be prevented from entering the drainage system, and if cleaning is done, the residue must be contained and removed from the Project site with other refuse.



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- 7.18 No burning of refuse or debris shall be allowed inside or around the Project during the course of construction without written authority from authorities having jurisdiction and the Owner.
- 7.19 The Contractor shall provide for and maintain necessary safety measures and safety programs for the protection of all persons involved with the Work. Such measures and programs shall include the requirements of the most current edition of the CAGC Safety and Health Manual [or the AGC Accident Prevention Manual in Construction], or equivalent requirements, and shall fully comply with all Federal, State, and local laws, rules, regulations, and building code requirements relating to the prevention of accidents or injuries to persons on or about the location of the Work.
- All trenches, excavations, or other hazards in the vicinity of the Work shall be well barricaded, and properly lighted at night. When Work requires closing of an area normally used by the Owner or the public, the Contractor shall furnish, erect, and maintain temporary barricades, and properly light the area. The Contractor shall comply with any directions and public authorities in this respect.
- 7.20 The Contractor shall designate a responsible officer or employee as safety inspector, whose duties shall include accident prevention on the Project as well as implementation of the Contractor's safety measures and safety programs on the Project. The name of the safety inspector shall be made known to the Designer and the Owner at the pre-construction conference.
- 7.21 In emergencies affecting the safety of persons, the Work, or property at the Project site or adjacent thereto, the Contractor is obligated to act in the Contractor's discretion to prevent threatened damage, injury, or loss. As soon as practicable, the Contractor shall notify the Designer and Owner of such emergency. The Contractor shall give the Designer and the Owner prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused by such emergency. If the Contractor believes that additional work done in an emergency entitles the Contractor to an increase in the Contract Price or an extension of the Contract Time, the Contractor may make a claim therefore as provided in Articles 14 and/or 15.
- 7.22 The Contractor shall at all times keep the premises free from accumulation of waste materials or rubbish caused by the Work. At least weekly and at the completion of the Work, the Contractor shall remove all waste materials and rubbish from and about the Project. At the completion of the Work, the Contractor shall remove all tools, construction equipment, machinery, and surplus materials. The Contractor shall leave the Work in condition for occupancy by the Owner such that no cleaning or other operations are required. Material cleared from the Project and deposited on adjacent property shall not be considered as having been disposed of satisfactorily. If the Contractor fails to keep the Project clean of waste materials or rubbish, fails to satisfactorily clean-up weekly or at the completion of the Work, the Owner may do so and the costs thereof may be deducted from any amounts due the Contractor.
- 7.23 Utilities, temporary facilities, and signs shall be provided as described in the Contract Documents. Absent a contrary direction in the Supplementary Conditions, the Contractor shall pay all bills for water, electricity, or other public utility service to the Project site.



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- 7.24 The Contractor shall indemnify and hold the Owner, the Designer, the Designer's consultants, and their officers, agents, and employees harmless against all costs, damages, and expenses, including attorney's fees and costs of defense, arising out of claims by any separate contractor or by any Subcontractor, sub-subcontractor, or supplier engaged by or employed by the Contractor or employed by any of the Subcontractors claiming through him, including without limitation damages, losses, and expenses arising out of or relating to any inconvenience, delay, interference, or other action or non-action of the Contractor or the Contractor's Subcontractors on the Project.

The Contractor acknowledges that should the Contractor or any of the Contractor's Subcontractors be damaged by any breach of contract by any other separate prime contractor on the Project, the Contractor may invoke applicable dispute resolution procedures with said other separate prime contractor or bring a direct civil action against said other separate prime contractor. The Contractor hereby expressly agrees that neither the Owner nor its officers, agents, or employees shall have any liability of any kind or nature whatsoever to the Contractor, its Subcontractors, sub-subcontractors, or suppliers arising out of or relating to any breach, inconvenience, delay, interference, or other action or non-action by any other separate prime contractor. The Contractor covenants not to sue the Owner for any loss or damage caused by any breach, inconvenience, delay, interference, or other action or non-action by any other separate prime contractor, notwithstanding whatever rights at law the Contractor might have to bring a civil action against the Owner for any breach, inconvenience, delay, interference, or other action or non-action of any other separate prime contractor. The Contractor agrees to look exclusively to the other prime contractor for relief or remedy.

Nothing contained herein or appearing anywhere in the Contract Documents shall obligate or require the Owner to exercise any right or privilege, or to take any action or to refrain from taking any action under any contract it may have with any other prime contractor or party to the Project for the benefit of the Contractor or any Subcontractor, sub-Subcontractor, or supplier claiming through the Contractor.

- 7.25 Prior to completion of the Work and Final Payment of the Contract Price, excepting only those portions of the Work deemed accepted in accordance with the Contract Documents, the Contractor shall have charge and care of the Work, and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the Work. The Contractor shall as required by the Owner replace, rebuild, repair, restore, and make good all injury or damage to any portion of the Work occasioned by any of the above causes before Final Completion and shall bear the expenses thereof.
- 7.26 In the event that the Work, or any portion thereof, is suspended at any time pursuant to an order of the Owner, the Contractor shall obey all instructions of the Owner regarding storage of materials, drainage, protection of the Work, and erection of temporary structures during the suspension period.
- 7.27 The Project Expediter for the Project shall be responsible for the coordination of the Work of itself and any other separate contractors, both as to space and time. The Project Expediter shall coordinate the implementation of the Contract Construction Schedule, all



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construction activities and close-out of the Project, including but not limited to all testing, inspection, certifications, and approvals required by public agencies.

The Contractor and the Project Expediter shall each be required to notify the Designer and the Owner promptly of any event or condition which could affect the conduct or progress of the Work and shall cooperate fully with all other contractors on the Project site.

- 7.28 The Owner hereby delegates to the Project Expediter all of its duties to coordinate and to expedite the Work not expressly reserved to the Owner by other provisions of the Contract Documents.
- 7.29 All Work performed pursuant to the Contract Documents shall conform in all respects to the North Carolina State Building Code and all other state, local, and national codes in effect at the time of and applicable to this Work.
- 7.30 The Contractor shall provide for and maintain necessary safety measures and safety programs for the protection of all persons at the Project site, and shall comply at all times with the requirements of the most current edition of the CAGC Safety and Health Manual [or the AGC Accident Prevention Manual in Construction], or the equivalent requirements of the Contractor's safety program, and shall fully comply with all Federal, State, and local laws, rules, regulations, and building code requirements so as to prevent accidents or injuries to persons on or about the Project site. The Contractor shall clearly mark or post signs warning of existing hazards, and shall barricade excavations, elevator shafts, stairways, and similar hazards. The Contractor shall protect against damage or injury resulting from falling materials, and shall maintain all protective devices and signs throughout the progress of the Work.
- 7.31 The Contractor shall adhere to the rules, regulations, and interpretations of the North Carolina Department of Labor's Occupational Safety and Health Standards for the Construction Industry (29 CFR Part 1926 as adopted in 13 NCAC 07F.0201, including 29 CFR Part 1910 General Industry Safety and Health Standards applicable to construction) and N.C. Gen. Stat. §95-126 through 155 (Occupational Safety and Health) as well as all revisions and amendments to such standards or statutes as may occur throughout the performance of the Work.
- 7.32 Any land disturbing activity performed by the Contractor 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 NCAC 4A, 4B, and 4C), and as may be revised or amended in the future. Upon receipt of notice that a land-disturbing activity is in violation of said Act, the Contractor shall be responsible for ensuring that all steps or actions necessary to bring the Project in compliance with said Act are promptly taken. The Contractor shall be responsible for all penalties assessed pursuant to N.C. Gen. Stat. 113A-64 with respect to its Work, and shall indemnify and hold harmless the Owner from all costs and expenses, including attorney's fees and costs of defense arising out of or related to the enforcement of the Act against any party or person described in this Article.



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- 7.33 Any mechanical or electrical work such as sleeves, inserts, chases, etc. located in the Work of the Contractor for general work shall be built in by that Contractor. On multiple prime projects, the mechanical and electrical contractors shall set all sleeves, inserts, and other devices built into the structure in cooperation and under the supervision of the Contractor for general work. The responsibility for exact location of such items shall be that of the mechanical, plumbing, or electrical prime contractor.
- 7.34 The Contractor shall be responsible for permanently fixed service facilities and systems in use during progress of the Work and shall strictly adhere to the following procedures:
- a) Prior to acceptance of the Work by the Owner, the Contractor shall remove and replace any part of the permanent building systems damaged through use during construction.
 - b) Temporary filters shall be installed in each of the heating and air conditioning units, return air grilles, and other locations to prevent intrusion of dust, dirt, and debris during construction. Temporary filters shall be removed and replaced with new filters immediately prior to Substantial Completion.
 - c) Extra effort shall be maintained to keep the building clean and under no circumstances shall air systems be operated if finishing operations are creating dust in excess of what would be considered normal if the building were occupied.
 - d) When the permanent lighting system is used during construction, lamps shall be replaced and shall be new on the date of Substantial Completion.

ARTICLE 8. OWNER

- 8.1 The Owner shall issue communications and notices to the Contractor through the Designer to the extent contemplated by the Contract Documents.
- 8.2 In case of termination of the employment of the Designer, the Owner shall appoint as Designer a qualified person who shall have and assume all rights and duties held by the original Designer.
- 8.3 The Owner shall have the right to take possession of and use any portion of the Work notwithstanding the fact that the time for completion of such portion of the Work may not have expired, but such taking possession and use shall not be deemed an acceptance of any Work not completed in accordance with the Contract Documents.
- 8.4 A waiver on the part of the Owner of any breach of any part of the Contractor shall not be held to be a waiver of any other or subsequent breach.
- 8.5 The Owner shall pay all permanent acreage fees, governmental impact fees, and meter deposits for permanent utilities.

ARTICLE 9. CONSTRUCTION MANAGER



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- 9.1 The Owner may employ one or more Construction Managers for the purpose of assisting the Owner, Designer, and Contractor in developing and administering budgets and cost controls, in evaluating constructability and value engineering proposals, in establishing and maintaining a critical path method (CPM) schedule, in coordinating and/or expediting the Work with other projects being constructed by the Owner or others adjacent or near the Work, or for such other purposes as the Owner may deem appropriate. From time to time the Owner may identify such Construction Managers(s) to the Contractor in writing identifying any tasks assigned to such Construction Managers(s).

ARTICLE 10. DESIGNER

- 10.1 The Designer is charged with the responsibility of interpretation of the Contract Documents. The Designer's decisions relating to aesthetic matters shall be final.
- 10.2 All Work completed under the Contract Documents shall be subject to review by the Designer. No Work is to be covered without the Designer's review or prior authorization. Any Work so covered without the Designer's review or prior authorization shall be uncovered at the Contractor's expense. The Contractor shall notify the Designer in writing at least twenty-four (24) hours in advance of covering any Work.
- 10.3 The Designer shall not be responsible for the construction means, methods, techniques, sequences, procedures, or the safety precautions and programs incident thereto, and shall not be responsible for the Contractor's failure to perform the Work in accordance with the Contract Documents, but shall be entitled to enforce any requirements in the Contract Documents specifying particular means, methods, techniques, sequences, or procedures.
- 10.4 The Designer shall be an Owner's representative during the construction period. The duties, responsibilities and authority of the Designer as the Owner's representative during construction are as set forth in the Contract Documents.

ARTICLE 11. TESTING AND SURVEYING

- 11.1 Laboratory and field tests to determine compliance of construction with the Contract Documents shall be made by the Owner or testing consultants employed by the Owner except those required elsewhere in the Contract Documents to be paid for by the Contractor. The costs and expenses of providing samples for and assistance in any testing shall be borne by the Contractor and are included in the Contract Price. Any Work in which untested materials are used without approval or written permission of the Designer shall be removed and replaced at the Contractor's expense. Work found to be unacceptable or unauthorized will not be paid for and, if directed by the Designer shall be removed and replaced at the Contractor's expense. Unless otherwise designated, tests in accordance with the cited standard methods of ASTM or other generally recognized or specifically authorized methods which are current on the date of advertisement for bids shall be made at the expense of the Owner; provided, however, in the event that after such testing any Work is found to be defective or does not meet the requirements of the Contract Documents, the costs of retesting such Work and the costs of inspection services shall be paid by the Contractor. Samples shall be taken by a testing laboratory employed by the Owner. All materials being used are subject to inspection, tests, or rejection at any time prior to or during incorporation into the Work. Copies of all Owner test reports will be



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furnished to the Contractor at his written request. Copies of Contractor test reports shall be furnished to the Designer upon written request.

11.2 The Owner shall have the right to deduct the costs of additional testing as described in paragraph 11.1 from any money due the Contractor; or if no money is due the Contractor, the Owner shall have the right to recover these costs from the Contractor, from its sureties, or from both.

11.3 All layouts and surveying shall be accomplished by properly qualified personnel duly licensed in the State of North Carolina.

ARTICLE 12. SEPARATE CONTRACTS

12.1 It is expressly understood that the Owner may deploy the Owner's own employees or engage other separate prime contractors to perform Work as a part of the Project whose work will be performed simultaneously and sequentially with the performance of the Work by the Contractor. It shall be necessary for the Contractor to coordinate construction activities with such other contractors, particularly with respect to access to work areas, storage of materials, and use of elevators and other common facilities. The Contractor shall diligently and in good faith cooperate with the Owner, the Designer, and all other contractors with respect to such matters and shall regularly and faithfully attend any and all meetings called by the Owner or the Designer with respect to such matters. Any disputes between the Contractor and any other separate prime contractor with respect to such matters shall be resolved in accordance with the claim and dispute resolution procedures in the Agreement.

ARTICLE 13. CONTRACT TIME

13.1 Within fourteen (14) days after receipt of the Construction Agreement by the Contractor for signatures, the Project Expediter shall prepare and submit to the Designer and Owner for review and approval a preliminary progress schedule for the Work pursuant to the requirements stated in the Contract Documents.

13.2 Within fourteen (14) days after initial receipt of the Construction Agreement for signatures the Contractor shall submit to the Designer a Submittal Register listing all Submittals the Contractor is required to make or proposes to make under the Contract Documents, the dates on which the Contractor proposes to make such Submittals and the dates by which the Contractor reasonably requires a response from the Designer with respect to each Submittal. The dates submitted shall be incorporated into the Contract Construction Schedule as Completion Dates when they have been approved or modified by the Owner. The Designer shall not be required to review any Submittal from the Contractor until a Submittal Register acceptable to and approved by the Owner has been submitted by the Contractor.

13.3 Not later than thirty (30) days following execution and delivery of the Construction Agreement by Owner to Contractor, the Owner shall deliver to the Contractor a Notice to Proceed. The Notice to Proceed shall state a commencement date on which it is expected that the Contractor will begin the Work to be performed under the Agreement. The Contract Time shall be measured from said specified commencement date. The commencement



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date stated in the Notice to Proceed shall not be earlier than three (3) days after the Notice to Proceed is served on the Contractor.

If, other than by mutual agreement, said specified commencement date is more than thirty (30) days after the date of execution and delivery of the Agreement from Owner to Contractor and the Contractor believes said delay justifies an increase in Contract Price and/or an extension of Contract Time, the Contractor may make a claim therefore as provided in Article 14 and/or Article 15.

No Work shall be done prior to the date specified in the Notice to Proceed.

A final Contract Construction Schedule shall be submitted for approval by the Contractor, Designer, and Owner no later than fourteen (14) days after Notice to Proceed. No payments shall be due the Contractor until this schedule is approved by all parties.

- 13.4 The Contract Construction Schedule is a Contract Document. The Contractor represents that the Contract Construction Schedule has been reviewed in detail, that the Contractor participated in its preparation, that all of the activities which impact, limit, or otherwise affect the time of completion of the Work are shown in the Contract Construction Schedule and that all of the activities of others which impact, limit, or otherwise affect the start, duration, or completion of the Contractor's activities are also shown. The Contractor further represents that the Contractor can and will complete each activity within the time shown for that activity. Time is of the essence with respect to each such activity and Completion Date.
- 13.5 If the Contractor submits a construction schedule, progress report, or any other document that indicates or otherwise expresses an intention to achieve completion of the Work prior to any Completion Date required by the Contract Documents or prior to expiration of the Contract Time, no liability of the Owner to the Contractor for any failure of the Contractor to so complete the Work shall be created or implied.
- 13.6 If the Contractor, for reasons beyond the Contractor's control, is delayed in beginning any activity, the Contractor shall, nevertheless, have the same number of days as is shown in the Contract Construction Schedule for the activity, and the affected activity and any succeeding activity that is dependent upon that activity shall be adjusted accordingly; provided that at any time the Owner, by means of a Change Order, may require the Contractor to work overtime, to increase labor forces or to take any necessary or appropriate action to decrease the time required for any activity, and the Contractor shall be entitled to an adjustment in the Contract Price computed in accordance with Article 15 of these General Conditions.
- 13.7 At any time, the Owner may order the Contractor, on seven (7) days written notice, to begin any activity earlier than the starting date shown on the Contract Construction Schedule.
- 13.8 Should the Contractor fail to start any activity on the start date shown in the Contract Construction Schedule or as it may have been adjusted in accordance with paragraphs 13.5 or 13.6 above, or become delayed, the Contractor shall, without being entitled to any increase in the Contract Price or other compensation, work overtime, increase labor forces or take such other action as may be necessary or appropriate to complete the activity by



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the Completion Date shown on the Contract Construction Schedule, or as such Completion Date may have been adjusted.

- 13.9 The Designer and Owner or his Construction Consultant shall monitor progress of the Work at all times and the Contractor shall cooperate with such monitoring and provide any and all information with respect to the progress of the Work and scheduling as the Owner may reasonably require.
- 13.10 On a monthly basis, the Contractor shall revise the Contract Construction Schedule, showing any adjustments made in accordance with paragraphs 13.5 or 13.6, above, by any Change Order, the progress of the Work, and any days gained or days lost with respect to any activity, and shall furnish copies thereof to the Owner and Designer.
- 13.11 Should any monthly revision of any Contract Construction Schedule show that the Contractor is behind on any activity, the late completion of which could delay Substantial Completion of the Work, the Owner shall be entitled to withhold from the next Progress Payment due the Contractor an amount not exceeding the amount the Owner would be entitled to in Liquidated Damages, should Substantial Completion be delayed by the same number of days that the Contractor is currently behind schedule. If, subsequently, the Contractor's progress, as shown by any succeeding monthly revision to the Contract Construction Schedule, is such that the anticipated delay no longer exists, the Owner shall pay with the Progress Payment next due to the Contractor such amounts as have been withheld in accordance with this paragraph.
- 13.12 The Owner shall have the right to perform Work, hire and employ labor and craftsmen, rent equipment, subcontract with other parties, or do anything that the Owner deems necessary or appropriate to remedy or cure any delay by the Contractor in the progress of the Work. Such action by the Owner shall not, in any way, affect, void or limit any warranty, guaranty or other responsibility of the Contractor under the Contract Documents. Such action may be taken by the Owner only after three (3) days written notice to the Contractor. All costs incurred by the Owner in taking any such action shall be charged to the Contractor and deducted from any amounts remaining due under the Agreement.
- 13.13 The Contractor may be entitled to an extension of the Contract Time (but no increase in the Contract Sum) for delays arising from unforeseen causes beyond the control and without the fault or negligence of the Owner, the Contractor or the Contractor's Subcontractors as follows:
- a) Labor disputes and strikes that directly impact the critical path activities of the Contract Construction Schedule;
 - b) Acts of God, tornado, fire, hurricane, blizzard, earthquake, typhoon, or flood that damage completed Work or stored materials.
 - c) Acts of the public enemy; acts of the State, Federal, or local government in their sovereign capacities.
 - d) Abnormal inclement weather as defined in Article 13.14.



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- 13.14 On any day that the Contractor considers that the Project is delayed by adverse weather conditions, the Contractor shall identify in writing to the Designer and the Owner the adverse weather conditions affecting each activity, the specific nature of the activity affected, the number of hours lost, and the number of and identity (by responsibility or trade) of workers affected and shall obtain from the Designer written recognition of the delay. The time for performance of this Contract includes an allowance for a number of calendar days which may not be suitable for construction Work by reason of adverse weather. The Contract Time will be extended only if the number of calendar days of adverse weather recognized by the Designer exceeds the number of inclement weather days set forth below, and the Contractor demonstrates how this adverse weather impacts activities on the critical path of the Contract Construction Schedule.

<u>Month</u>	<u>Number of Inclement Weather Days</u>
January	10
February	10
March	10
April	9
May	10
June	9
July	11
August	10
September	8
October	7
November	8
December	9

- 13.15 If the Contractor believes that the progress of the Work has been adversely affected by adverse weather recognized by the Designer during a particular month, the Contractor shall submit a written request for extension of time to the Designer. Such a request for time extension of the Contract Time shall be submitted by the tenth (10th) day of the month following that month in which the adverse weather is encountered. The request shall include, but is not limited to, the following information:

- a) Detailed description of weather's effect on scheduled activities and its net effect on the critical path of the Project, and
- b) Weather records from the official weather station nearest the Project site and records of actual observation as contained in daily reports, correspondence, or other documentation.

- 13.16 The Contractor specifically recognizes that a delay by the Contractor in achieving any Completion Date can have the effect of delaying the Substantial Completion of the Project, that such delay in Substantial Completion of the Project will necessarily cause damages, losses, and expenses to the Owner, including, but not limited to and by way of illustration only, increased capitalized costs and interests for the Project, increased and extended Project overhead, Designer's and Consultant's fees, increased costs of construction, increased and extended operation costs of other facilities, and inefficiency and loss of productivity, and that such damages, losses, and expenses may not be readily identifiable or ascertainable at the time they are incurred or at any time. Therefore, and in recognition



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of these factors and the likelihood that actual damages from his delay will not be readily ascertainable, the Contractor agrees to pay to the Owner, as Liquidated Damages and not as a penalty, the sum identified in the Supplemental Conditions hereto as the Liquidated Damages per Day, for each day by which the failure to meet any Completion Date shown in the Contract Construction Schedule, adjusted in accordance with this Article, delays the Substantial Completion of the Project.

- 13.17 The Contractor shall not be entitled to any adjustment in the Contract Price or other compensation from the Owner for any delay in the completion of or progress on the Work that is caused by a force majeure condition or is otherwise not caused by the sole and direct act or omission of the Owner and the Owner's employees or agents.
- 13.18 The sum for Liquidated Damages is the amount stipulated in the Supplementary General Conditions per day per Prime Contractor as Liquidated Damages reasonably estimated in advance to cover the losses to be incurred by the Owner by reason of failure of said Contractor(s) to complete the Work within the time specified, such time being in the essence of this contract and a material consideration thereof.

ARTICLE 14. CHANGES IN THE WORK

- 14.1 Without invalidating the Contract Documents, the Owner may, at any time, or from time to time order additions, deletions, or revisions in the Work. Said additions, deletions, or revisions shall be authorized only by written Change Orders, Construction Change Directives or Field Orders. Upon receipt of a Change Order, Construction Change Directive or Field Order, the Contractor shall proceed with the Work involved. All such Work shall be executed under the applicable conditions of the Contract Documents. If any change causes an increase or decrease in the Contract Price and/or an extension or shortening of the Contract Time, adjustments shall be made as provided in Article 14 and/or Article 15.

In order to expedite the Work and avoid or minimize delay in the Work that might affect the Contract Price or Contract Time, the Designer may issue a Change Order in the form of a Construction Change Directive which when signed by the Owner and Designer, directs the Contractor to proceed promptly with the Work involved. Any claim for an adjustment in Contract Price or Time, if not defined in the Construction Change Directive, shall be promptly made in writing in accordance with the procedures defined in Article 15.2.

- 14.2 The Designer may authorize minor changes or alterations in the Work not involving change in the Contract Price or in the Contract Time and not inconsistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order. Such alterations shall not invalidate the Contract Documents nor release the surety. If the Contractor believes that any minor change or alteration authorized by the Designer entitles him to an increase in the Contract Price and/or an extension of Contract Time, he may make a claim therefore as provided in Article 14 and/or Article 15.
- 14.3 Except in an emergency endangering life or property, no change shall be made by the Contractor except upon prior written Change Order, Directive or Field Order authorizing such Change.



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- 14.4 Increases in the Contract Price and/or extensions of the Contract Time for additional Work performed by the Contractor shall only be in accordance with a written Change Order signed by the Owner and Designer. The Contractor shall not be entitled to additional time or to additional compensation for any Work performed or material supplied which is claimed to have been authorized or settled by an "oral" change, or by a "constructive" or "implied" change, or by a course of conduct, or by any action or non-action by the Owner, Designer, or any other persons, or by any means whatsoever other than by a written Change Order for such Work or material signed by the Owner and the Designer.
- 14.5 Changes in the Work resulting from emergency shall not invalidate the Contract Documents nor release the surety.
- 14.6 Neither the Owner nor the Designer shall be responsible for verbal instructions which have not been confirmed in writing, and in no case shall such instructions be interpreted as permitting a departure from the Contract Documents unless such instruction is confirmed in writing and supported by a proper Change Order, Construction Change Directive or Field Order, whether or not the cost is affected.
- 14.7 The Owner, in its sole discretion, may require that the Contractor notify the Contractor's sureties of any changes affecting the general scope of the Work or change in the Contract Price, and that the amount of applicable bonds shall be adjusted accordingly. If this requirement is exercised, the Contractor shall furnish proof of such adjustment to the Designer and the Owner.
- If this requirement is exercised, the Change Orders shall require written consent of the Contractor's surety. At the time of signing a Change Order, the Contractor shall be required to certify as follows:
- "I certify that all sureties have been notified that my contract has been altered by the amount of this Change Order, and that a copy of the approved Change Order will be mailed to all sureties upon its receipt by me."
- If this requirement is exercised, no payment to the Contractor on account of any Change Order shall become due or payable until written evidence of the surety's consent to the Change Order has been furnished to the Designer and to the Owner, and the furnishing of such written consent is a condition precedent to such payment.
- 14.8 The Contractor shall support all requests for Change Orders with a detailed cost breakdown showing cost of materials, labor, equipment, transportation, other items, Contractor's overhead and profit, and total cost, in accordance with methods defined in this Article, and, if the request seeks an extension of the Contract Time, with a time-related diagram which demonstrates specifically why an increase in construction time is needed.
- 14.9 When a request for a Change Order involves a Subcontractor, the Contractor shall provide quotation from same on Subcontractor's letterhead. The Subcontractor's quote shall list materials, equipment, and labor separately, and show overhead and profit in the manner provided in paragraph 14.8.

ARTICLE 15. CHANGE OF THE CONTRACT PRICE



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- 15.1 The Contract Price constitutes the total compensation payable to the Contractor for performing all Work under the Contract Documents. All duties, responsibilities, and obligations assigned to or undertaken by the Contractor shall be at his expense without change in the Contract Price. The Contract Price may only be changed by a Change Order.
- 15.2 Any claim for an adjustment in the Contract Price shall be in writing and written notice of any event, action, or non-action which may become the basis of a claim shall be delivered to the Owner and the Designer within three (3) days of the occurrence, or the beginning of the occurrence, of any such event, action or non-action giving rise to the claim. Such written notice is a condition precedent to the making of a claim, and such notice shall describe the basis of the potential claim with reasonable detail and clarity.

A claim shall be made in writing and shall be delivered to the Designer and the Owner no later than fourteen (14) days after such notice. The claim shall describe in detail the basis for the claim, with specific reference to any provisions of the Contract Documents, by paragraph, drawing number, or other specific identification, and shall state the amount claimed and how it is calculated. If the Contractor, at the time the claim is made, is unable to state the amount claimed with accuracy, the Contractor shall so state and provide the estimated amount and the basis on which the amount is to be calculated. At the earliest date practicable, but in no event more than thirty (30) days after Contractor's notice of claim, the Contractor shall supplement the claim with an accurate statement of the amount claimed and how it has been calculated. The Contractor shall provide, in writing, in support of the claim all such explanations, arguments, data, receipts, expert opinions, or other documents or information as the Contractor deems appropriate to be considered in support of the claim. A claim may properly be rejected by the Owner by reason of the Contractor's failure to submit adequate or accurate documentation or information, except that within seven (7) days after being given notice that the claim has been rejected on this basis, the Contractor may submit additional documentation or information. No claim for a change of the Contract Price shall be considered or granted (except solely at the discretion of the Owner) unless a claim is so made, nor shall the Contractor be entitled to any increase in the Contract Price unless the Contractor has given notice and made such a written claim within the times required. The Owner shall decide, after obtaining the advice of the Designer, whether an increase in Contract Price is warranted, and the amount of such increase shall be determined as provided in paragraph 15.4 through 15.5, below. Any change in the Contract Price resulting from any such claim shall be incorporated in a Change Order.

The Owner shall advise the Contractor of its decision with respect to the claim within fourteen (14) days of its receipt, or of the receipt of additional documentation or information if the absence of such has previously been the basis of rejection of the claim; provided, however, that if, in its sole discretion, the Owner deems that review or consideration of any part of the claim or any matter related thereto by its governing Board is necessary or appropriate, it shall so advise the Contractor and shall provide its decision to the Contractor within seven (7) days after such Board consideration, review or action. Any claim on which the Owner has not provided its decision to the Contractor within the applicable time period shall be deemed denied.



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If the Contractor is not satisfied with the decision of the Owner, the Contractor may within seven (7) days of receipt of the Owner's decision initiate the mediation process as described in Appendix A to the General Conditions of the Contract for Construction.

- 15.3 In determining the amount of a Contract Price adjustment, the parties shall apply the following methods, as appropriate:

(A) Change in Work: The Owner and Contractor shall negotiate in good faith and attempt to agree upon the value of any change (extra or decrease) in Work prior to the issuance of a Change Order covering said Work. Such Change Order shall set forth the corresponding adjustment to the Contract Price. In the event the Owner and the Contractor are unable to agree, the Owner shall grant an equitable adjustment in the Contract Price.

(B) Emergency Work: In the event of emergency endangering life or property, the Contractor may be directed by the Designer to proceed on a time and material basis, whereupon the Contractor shall so proceed and keep accurately, in such form as may be required by the Designer, a correct account of costs together with all proper invoices, payrolls, and supporting data therefore.

- 15.4 Where the Contract Price is to be adjusted, the following limitations shall apply in determining the amount of adjustment:

(A) In the case of extra or emergency work, the Contract Price shall not be increased by more than the reasonable, actual, and documented net cost of the extra or emergency work plus ten percent (10%) of such net cost on Work performed by the Contractor and five percent (5%) thereof on any subcontracted Work for overhead and profit combined.

(B) In the case of a decrease in Work, the Contract Price shall not be decreased by less than the net cost of the deleted Work plus five percent (5%) of such direct net cost for profit and overhead.

The term 'net cost' as used herein shall include, as applicable, and shall be limited to, all direct labor, direct material, direct equipment, labor burden, sales taxes, shipping and handling charges, permits and fees, and insurance and bond premium adjustments, if any, attributable to the change. All other items of cost shall be considered as overhead and covered by the percentages allowed in sections A and B of this paragraph.

The Contractor shall provide worksheets or tabulations describing the method by which the direct net cost was calculated, and shall provide all data needed to support the calculation of the direct net cost, all in a form acceptable to the Owner.

- 15.5 Where the Contract Price is to be adjusted by negotiation, the Owner may authorize and designate the Designer to negotiate with the Contractor on behalf of the Owner; provided, however, any agreement reached between the Contractor and Designer shall be subject to approval by the Owner.



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ARTICLE 16. UNFORESEEN CONDITIONS

- 16.1 Should the Contractor encounter unforeseen conditions at the Project 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 Agreement, the Contractor shall immediately, and in no event more than three days later, 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 in the Contract Price 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 reports, surveys, and analyses made available for the Contractor's review or that could have been discovered by the Contractor through the performance of its obligations pursuant to the Contract Documents.

ARTICLE 17. CORRECTION OF WORK BEFORE FINAL PAYMENT

- 17.1 The Owner has the authority to stop or suspend work, and the Designer has the authority to order Work removed or to order corrections of defective Work or Work not in compliance with the Contract Documents where such action may be necessary to ensure successful completion of the Work.

Any work, materials, fabricated items, or other parts of the Work which have been found by the Designer to be defective or not in accordance with the Contract Documents shall be condemned and shall be removed from the Project by the Contractor, and immediately replaced by new Work in accordance with the Contract Documents at no additional cost to the Owner. Work or property of the Owner or others damaged or destroyed by virtue of such condemned Work shall be made good at the expense of the Contractor.

Correction of condemned Work described above shall be commenced by the Contractor within twenty-four (24) hours after notice from the Designer or the Owner and shall be pursued to completion. Should the Contractor fail to proceed reasonably with the above-mentioned corrections, the Owner may, three (3) days after the notice specified in the preceding sentence, proceed with correction, paying the cost, including costs of uncovering such condemned Work, of such corrections from amounts due or to become due to the Contractor.

Condemned Work removed shall be the property of the Contractor and shall be removed from the Project by him within ten (10) days after notice to remove it, and if not then removed, thereafter may be disposed of by the Owner without compensation to the Contractor and the cost of such disposal shall be deducted from amounts due or to become due to the Contractor.



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Should the cost of correction of the Work and, if applicable, disposal of the condemned Work by the Owner exceed amounts due or to become due the Contractor, then the Contractor and the Contractor's sureties shall be liable for and shall pay to the Owner the amount of such excess.

ARTICLE 18. CORRECTION OF WORK AFTER SUBSTANTIAL COMPLETION; WARRANTIES AND GUARANTIES

- 18.1 Neither the final certificate, Final Payment, occupation of the premises by the Owner, nor any provision of the Contract Documents, nor any other act or instrument of the Owner or the Designer shall relieve the Contractor from responsibility for negligence, defective material or workmanship, or failure to comply with the Contract Documents.
- 18.2 The Contractor shall, at the Contractor's sole cost and expense, make all necessary repairs, replacements, and corrections of any nature or description, interior or exterior, structural or non-structural, that shall become necessary by reason of defective workmanship or materials which appear within a period of one (1) year from the date of Substantial Completion; provided, however that notwithstanding the preceding, if any longer guarantee period is specified for any particular materials or workmanship under the Contract Documents, or under any subcontract, or in connection with any manufactured unit which is installed in the Project, or under the laws of the State of North Carolina, the longer guarantee period shall govern.
- 18.3 If, within any guarantee period, repairs or changes are required in connection with the Work, which are rendered necessary as the result of the use of materials, equipment, or workmanship which are inferior, defective, or not in accordance with the terms of the Contract Documents, the Contractor shall, promptly upon receipt of notice from the Designer and without expense to the Owner:
- a) Completely repair or replace the Work so that it conforms to the Contract Documents;
 - b) Correct all defects therein;
 - c) Make good all damage which, in the opinion of the Designer, is the result of the use of materials, equipment, or workmanship which are inferior, defective, or not in accordance with the terms of the Contract Documents; and
 - d) Make good any Work or material, or any equipment or contents disturbed in fulfilling any such guarantee.

If, in fulfilling the requirements of the Contract Documents or of any guarantee embraced therein or required thereby, the Contractor disturbs any work, facility, premises, or construction belonging to the Owner, the Contractor shall restore such disturbed work to a condition satisfactory to the Owner, and shall guarantee such restored work to the same extent as if it were Work under the Contract Documents.

If the Contractor, after notice, fails to proceed promptly to comply with the terms of the guarantee, the Owner may have the defects corrected, and the Contractor and the



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Contractor's sureties shall be liable for all expenses incurred. "Promptly" is defined as within twenty-four (24) hours for systems necessary to normal operation of the building and within seventy-two (72) hours for all other items. All special guarantees applicable to definite parts of the Work that may be shown in or required by Contract Documents shall be subject to the terms of this paragraph during the first year of the life of such special guarantee. Manufacturer's standard guarantees or warranties which do not comply with the time limit specified herein shall be extended by the Contractor automatically without further action on the part of the Owner or the Designer.

- 18.4 In the eleventh calendar month after the date of Substantial Completion, and at the request of the Owner, the Contractor, the Owner and the Designer shall make an inspection of the Work for the purpose of identifying defective workmanship and/or materials. If the Contractor, having been requested to do so by the Owner, fails to participate in such inspection, the Contractor shall be conclusively bound by any decision or ruling by the Designer as to any defective workmanship or material and as to the Contractor's responsibility for its repair or replacement.

ARTICLE 19. OWNER'S RIGHT TO DO WORK

- 19.1 If, during the progress of the Work or during any period of guarantee, the Contractor fails to prosecute the Work properly or to perform any provision of the Contract Documents, the Owner, after three (3) days written notice to the Contractor from the Designer, or from the Owner after Final Payment, may perform or have performed that portion of the Work and may deduct the cost thereof from any amounts due or to become due the Contractor. Notwithstanding any action by the Owner under this paragraph, all warranties and bonds given or to be given by the Contractor shall remain in effect or shall be given by the Contractor.
- 19.2 Should the cost of such action by the Owner exceed the amount due or to become due the Contractor, the Contractor and his sureties shall be liable for and shall pay to the Owner the amount of such excess.

ARTICLE 20. PARTIAL PAYMENTS

- 20.1 Within thirty (30) days after his initial receipt of the Construction Agreement for signatures, the Contractor shall submit to the Designer a Schedule of Values. The Schedule of Values shall indicate the value of the Work, including applicable overhead and profit, for each Division and section of the Project Specifications. The Designer and Owner shall be provided with the Contractor's estimate papers, Subcontractor agreements, supplier quotes, or other documents substantiating these values if so requested in writing by the Designer. The Contractor shall provide the requested documentation within seven (7) days after receipt of the Designer's written request. The Schedule of Values shall be subject to approval by the Owner, and if the Owner and the Contractor cannot agree upon the Schedule of Values, the Designer shall prepare it, and the Schedule of Values as prepared by the Designer shall be binding on the Owner and the Contractor. No Request for Payment shall be certified by the Designer until the Designer has issued approval of said Schedule of Values.



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20.2 Not later than the fifth (5th) day of each calendar month the Contractor shall submit to the Designer a Request for Payment for Work done during the previous calendar month. The Request for Payment shall be in form of AIA Document G702 (latest edition) and shall show substantially the value of Work done (including the value of material delivered to the Project or stored by the Contractor at another site, subject to the conditions hereinafter set forth) during the previous calendar month, and shall sum up the financial status of the Work with the following information:

- a) Total Contract Price, including any adjustment thereto made pursuant to the Contract Documents.
- b) Value of Work completed and materials properly stored to date.
- c) Less amount retained.
- d) Less previous payments.
- e) Current amount due.
- f) Balance remaining.

The Contractor, upon request of the Designer, shall substantiate the request with invoices, vouchers, payrolls, or other evidence.

20.3 When payment is requested or made on an account of stored materials, such materials must be stored on the Owner's property at such places and in such a manner as may be designated by the Designer. However, in the sole discretion of the Owner, with permission in writing from the Designer and Owner and under such circumstances as may be determined by the Owner, such materials may be stored in a bonded warehouse. The location and conditions for storage of such materials away from the Owner's property in a bonded warehouse shall be within the sole discretion of the Owner. Requests for Payment on account of stored materials shall be accompanied by paid invoices, bills of sale, warehouse receipts, or other documentary evidence establishing Owner's title to such materials, evidence that the stored materials are insured against loss and damage, and such other documentation as required by the Designer. Responsibility for the quantity, quality, and condition of such stored materials, whether stored on the Owner's property or away from the Owner's property, shall remain with the Contractor regardless of ownership or title. No payment shall be made on account of materials stored in a bonded warehouse unless the Contractor has acquired written permission from the Designer for such storage of materials and has complied with all conditions set forth in such permission regarding such storage of materials in a bonded warehouse.

20.4 Any Request for Payment received by the Designer on or before the fifth (5th) of the calendar month shall be certified for payment or returned for re-submission to the Contractor on or before the fifteenth (15th) of the calendar month. The Designer's certification shall be for the amount which was requested or that which the Designer has decided was justly due, and shall state in writing to the Contractor and Owner the reasons for withholding payment of any or all of the amount requested.



GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

- 20.5 The Designer may fail to certify all or part of any payment requested for any of the following reasons:
- a) Defective Work not corrected.
 - b) Suits, actions, or claims of any character filed against the Contractor, or due to the operations of the Contractor, or information or notice that a suit, action, or claim will be filed or has been made.
 - c) Information or notice that a Subcontractor or a supplier has not received payment.
 - d) The balance unpaid of the Contract Price is insufficient to complete the Work in the judgment of the Designer or Owner.
 - e) Damage to the Owner or another contractor.
 - f) Inability of the Contractor to meet a Completion Date, including an anticipated failure to meet a Completion Date entitling the Owner to withhold anticipated Liquidated Damages in accordance with paragraphs 13.16 and 13.18 hereof.
 - g) Failure to furnish Submittal as required by the Contract Documents on a timely basis in accordance with the Submittal Register.
 - h) Such other reason as to the Designer may appear prudent, proper, or equitable.

When grounds for withholding certification have been corrected, the Designer shall so certify to the Owner and the Owner shall make any payment due with respect to such certification as a part of his next payment after such certification.

- 20.6 No certificate issued or progress payment made shall constitute an acceptance of the Work or any part thereof.
- 20.7 The amount certified by the Designer for payment shall be ninety-five percent (95%) of the value of Work completed and materials stored since the Designer's last certification as shown on the Request for Payment, less any amounts not certified in accordance with paragraph 20.4, and this amount shall be paid by the Owner on or before the last business day of the month, but payment shall not be past due until not paid within fifteen (15) days thereafter.
- 20.8 After certification by the Designer that the Work is fifty percent (50%) complete, based on a determination that the Contractor's gross project invoices, excluding the value of materials stored off-site, equal or exceed fifty percent (50%) of the value of the Contract, (except the value of 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) and the Contractor has provided to the Owner the written consent of its sureties to the cessation of further percentage retention, the amount certified for payment with respect to subsequent Requests for Payment shall be one hundred percent (100%) of the value of Work completed and materials stored since the Designer's last certification as shown on the Request for Payment, less any amounts not certified in accordance with



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paragraphs 20.4 and 20.5; provided, however, that the aggregate of periodic payments shall not exceed ninety-seven and one half percent (97.5%) of the Contract Price. If the Owner determines that the Contractor's performance under the Contract is unsatisfactory, the Owner may resume withholding percentage retention from each subsequent periodic payment application up to the maximum amount of five percent (5%) of the Contract Price.

ARTICLE 21. FINAL PAYMENT

- 21.1 If the Work of the Contractor is limited to demolition, pilings, caissons and/or structural steel, the remaining unpaid balance of the Contractor's Contract Price, less a sum equal to five-tenths percent (0.5%) of the Contract Price, shall be paid within sixty days following receipt of the following documents, all of which must be received before payment shall become due: (i) request for payment from the Contractor; (ii) receipt of consent from the Contractor's surety to the payment; and (iii) approval or certification from the Designer that the work performed by the Contractor is acceptable and in accordance with the Contract Documents.
- 21.2 Except as set forth in paragraph 21.1, within forty five days after Substantial Completion of the Project, the remaining unpaid balance of the Contract Price shall be paid to the Contractor, less an amount equal to two and one-half times the value of punch list work or other work remaining to be completed or corrected, as reasonably estimated by the Owner.
- 21.3 Upon Substantial Completion, the Designer shall prepare and submit to the Contractor a deficiency list identifying all portions of the Work which are known by the Designer at that time to be incomplete or defective. Within thirty (30) days of receipt of this deficiency list, the Contractor shall complete and correct all items on that list along with all other Work required to achieve Final Completion of the Work. At any time prior to completion of the period of warranty, the Designer may submit to the Contractor a supplemental deficiency list, in which case the Contractor shall complete or correct any and all new items identified on the Supplemental deficiency list within the time period stipulated in paragraph 18.3.
- 21.4 Final Payment of any remaining balance of the Contract Price shall not be due to the Contractor until the Contractor achieves Final Completion of the Project.
- 21.5 The making and acceptance of Final Payment shall constitute a waiver of all claims by the Owner except:
- a) Claims arising from unsettled liens or claims against the Contractor.
 - b) Defective Work or materials appearing after Final Payment.
 - c) Failure of the Contractor to perform the Work in accordance with the Contract Documents.
 - d) As conditioned in the Performance Bond.
 - e) Claims made prior to Final Payment which remain unsettled.
 - f) Amounts due arising under Articles 18 and 28.



GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

- g) Claims for recovery of overpayment based upon incorrect measurement, estimate, or certificate.
- 21.6 The making and acceptance of Final Payment shall constitute a waiver of all claims by the Contractor except those claims previously made in writing pursuant to paragraph 15.2 and not finally resolved.
- 21.7 The Designer shall not authorize Final Payment until all of the Work under the Contract Documents has been certified by the Designer as completed, proper and suitable for occupancy and use, and has been approved by all federal, state and local agencies having jurisdiction.
- 21.8 The final Request for Payment shall be identified on its face as such and shall be presented by the Contractor to the Designer within thirty (30) days of completion of the Work. Final payment of the retained amount due the Contractor shall be made by the Owner within thirty (30) days after the later of (i) full and Final Completion of all Work required by the Contract Documents, and certification of such Work in accordance with paragraph 20.4; (ii) submission of the affidavits of other documentation required by Article 22; (iii) submission by the Contractor of a Request for Payment identified on its face as final and including the Designer's certification.

ARTICLE 22. CONTRACTOR, SUBCONTRACTOR AND SUPPLIER AFFIDAVIT

- 22.1 The Final Payment due the Contractor on account of the Contract Documents shall not become due until the Contractor has furnished to the Owner through the Designer: (A) an affidavit by the Contractor signed, sworn, and notarized to the effect that all payments for materials, services, or for any other reason in connection with the Work or performance of the Contract Documents have been satisfied and that no claims or liens exist against the Contractor in connection with the same; (B) affidavits from each Subcontractor and supplier signed, sworn, and notarized to the effect that (i) each such Subcontractor or supplier has been paid in full by the Contractor for all Work performed and/or materials supplied by him in connection with the Project, and (ii) that all payments for materials, services, and for any other reason in connection with the subcontract or supply contract have been satisfied and that no claims or liens exist against the Subcontractor or supplier in connection therewith; and (C) the written consent of the Contractor's sureties to Final Payment. In the event that the Contractor cannot obtain an affidavit, as required above, from any Subcontractor or supplier, the Contractor shall state in the Contractor's affidavit that no claims or liens exist against such Subcontractor or supplier to the best of the Contractor's knowledge, and that if any appear afterwards, the Contractor shall save the Owner harmless for all costs and expenses, including attorneys fees, on account thereof.

ARTICLE 23. ASSIGNMENTS AND SUBCONTRACTS

- 23.1 The Contractor shall not assign any portion of this Agreement nor subcontract the Work in its entirety without the prior written consent of the Owner. Except as may be required under terms of the bonds required by the Contract Documents, no funds or sums of money due or to become due to the Contractor under the Contract Documents may be assigned.



GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

ARTICLE 24. MEASUREMENTS

- 24.1 Before ordering material or doing Work which is dependent for proper size or installation upon coordination with building conditions, the Contractor shall verify all dimensions and shall be responsible for the correctness of same. No consideration will be given for any claim based on differences between the actual dimensions and those indicated in the Contract Documents. Any discrepancies between the Contract Documents and the existing conditions shall be referred to the Designer for adjustment before any Work affected thereby is begun.

ARTICLE 25. CONTRACTOR AND SUBCONTRACTOR RELATIONSHIPS

- 25.1 Within thirty (30) days after initial receipt of the Construction Agreement for signatures the Contractor shall submit to the Designer and Owner for acceptance a current list of the names of Subcontractors and such other persons and organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed for any and all portions of the Work. The Contractor shall provide this list at this time even if the Contractor was required to submit a list of proposed Subcontractors with the Contractor's bid. The Designer shall promptly reply to the Contractor in writing stating whether or not the Owner or the Designer, after due investigation, has objection to any such proposed person or entity or if it needs additional information to evaluate the persons on the list. Failure of the Designer to reply within ten (10) days after the Contractor has furnished all required information shall constitute notice of no objection.

The Contractor shall not contract with any such proposed person or entity to whom the Owner or the Designer has made reasonable objection. If the Designer or Owner has reasonable objection to any such proposed person or entity, the Contractor shall submit a substitute to whom the Owner and the Designer have no reasonable objection. The Contractor shall make no substitution for any Subcontractor, person, or entity previously allowed without first notifying the Designer and Owner in writing and no substitution may be made if the Owner or Designer makes a reasonable objection to such substitution.

- 25.2 The Contractor agrees that the terms of the Contract Documents, including all portions thereof, shall apply to all Subcontractors of the Contractor as if they were the Contractor, and that the Subcontractors of the Contractor shall, by means of their subcontracts, be bound by all the terms of the Contract Documents including, but not limited to, Article 26 of these General Conditions.
- 25.3 Payments to Subcontractors shall be made in accordance with the provisions of N.C. Gen. Stat. §143-134.1.

ARTICLE 26. USE OF PREMISES

- 26.1 The Contractor shall confine apparatus, the storage of materials, the operations of workers, and the disposal of material to limits indicated by law, ordinances, permits, and directions of the Designer, if any.
- 26.2 The Contractor shall not load or permit any part of the Work to be loaded with a weight that will endanger its safety, intended performance, or configuration.



GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

- 26.3 The Contractor shall enforce all of the Designer's instructions, including, but not limited to, those regarding signs, advertisements, fires, and smoking.

ARTICLE 27. CUTTING, PATCHING AND FITTING

- 27.1 The Contractor shall do all cutting, fitting, and patching of the Work that may be required to make its several parts come together properly and fit it to receive or to be received by Work shown in or which can be reasonably implied from the Contract Documents.

ARTICLE 28. DISPUTE RESOLUTION

- 28.1 The laws of the State of North Carolina shall apply to the interpretation and enforcement of this Agreement. Any and all suits or actions to enforce, interpret, or seek damages with respect to any provision of, or the performance or nonperformance of, this Agreement shall be brought in the General Court of Justice of North Carolina sitting in Wake County, North Carolina, and it is agreed by the parties that no other court shall have jurisdiction or venue with respect to such suits or actions. Appendix A shall be a part of the Contract Documents. Prior to initiating an action under this Article, any party to this Agreement shall initiate the mediation process as provided in Appendix A to these General Conditions of the Contract for Construction.
- 28.2 Any person or firm that expressly or impliedly agrees to perform labor or services or to provide material, supplies, equipment, work, performance or payment bonds, insurance or indemnification for the construction of the Project or the Work shall be deemed a party to this Agreement solely for the purpose of this Article 28. The Contractor, by means of its subcontracts, shall specifically require its Subcontractors to be bound by this Article.

ARTICLE 29. TAXES

- 29.1 The Contractor has included in the Contract Price and shall pay all taxes assessed by any authority on the Work or the labor and materials used therein. The Contractor shall maintain all tax records during the life of the Project and furnish the Owner with a complete listing of all taxes paid by taxing authority, invoice number, date, amount, etc. in a form acceptable to the Owner. The Contractor is required to maintain a file showing taxes paid on the Project for three (3) years after Final Payment or turn said documents over to the Owner for his files.
- 29.2 The following is a list of requirements to be followed by the Contractor in maintaining proper records and reporting the North Carolina Sales and Use Tax and Local Sales and Use Tax. The Contractor shall comply fully with the requirements outlined below, in order that the Owner may recover the amount of the tax permitted under the law.
- a) It shall be the Contractor's responsibility to furnish the Owner documentary evidence showing the materials used and sales and use tax paid by the Contractor and each of his Subcontractors. Such evidence shall be transmitted to the Owner with each pay request regardless of whether taxes were paid in that period.



GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

- b) The documentary evidence shall consist of a certified statement by the Contractor and each of the Contractor's Subcontractors individually, showing total purchases of materials from each separate vendor and total sales and use taxes paid to each vendor. Certified statements must show the invoice number, or numbers, covered, and inclusive dates of such invoices.
- c) Materials used from Contractor's or Subcontractor's warehouse stock shall be shown in a certified statement at warehouse stock prices.
- d) The Contractor shall not be required to certify the Subcontractor's statements.

ARTICLE 30. OPERATION OF OWNER'S FACILITIES

- 30.1 The Contractor agrees that all Work done under the Contract Documents shall be carried on in such a manner so as to ensure the regular and continuous operation of the adjoining or adjacent facilities. The Contractor further agrees that the sequence of operations under the Contract Documents shall be scheduled and carried out so as to ensure said regular and continuous operation. The Contractor shall not close any areas of construction until so authorized by the Designer. The Contractor shall control operations to assure the least inconvenience to the public. Under all circumstances, safety shall be the most important consideration.

ARTICLE 31. THIRD PARTY BENEFICIARY CLAUSE

- 31.1 It is specifically agreed between the parties executing the Agreement that, with the specific exception set forth paragraph 7.24 hereof, and that exception only, the Contract Documents and the provisions therein are not intended to make the public, or any member thereof, a third-party beneficiary of the Agreement, or to authorize anyone not a party to the Contract Documents to maintain a suit for personal injuries or property damage pursuant to the terms of provisions of the Contract Documents.

ARTICLE 32. MEASUREMENT OF QUANTITIES

- 32.1 All Work completed under the Contract Documents shall be measured by the Contractor using United States customary units of measurement. The method of measurement and computations to be used in determination of quantities of material furnished and of Work performed under the Contract Documents shall be those methods set forth in the Contract Documents or, if not specifically set forth therein, the method generally recognized as conforming to good engineering practice.

ARTICLE 33. TERMINATION BY THE OWNER FOR CAUSE

- 33.1 If the Contractor fails to begin or complete the Work under the Contract Documents within the time specified, or fails to perform the Work with sufficient labor and equipment or with sufficient materials to insure the prompt completion of said Work, or shall perform the Work unsuitably or shall discontinue the prosecution of the Work for three (3) days, or if the Contractor shall become insolvent, be declared bankrupt, commit any act of bankruptcy or insolvency, allow any final judgment to stand against the Contractor or its affiliated



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companies unsatisfied for a period of forty-eight (48) hours, make an assignment for the benefit of creditors, or for any other cause whatsoever shall not carry on the Work in an acceptable manner, the Owner may give notice in writing to the Contractor and the Contractor's sureties of such delay, neglect, or default, specifying the same, and if the Contractor within a period of three (3) days after such notice shall not proceed in good faith and with reasonable speed to correct such delay, neglect, or default in accordance with such notice, the Owner shall have full power and authority, to the extent permitted by law, without violating the Contract Documents, to take the prosecution of the Work out of the hands of the Contractor, to appropriate or use any or all materials and equipment at the Project as may be suitable and acceptable, and may enter into an agreement for the completion of the Work or pursue such other methods as in the Owner's opinion shall be necessary or appropriate for the completion of the Work in an acceptable manner. All costs and charges incurred by the Owner in proceeding in accordance with the preceding sentence, including attorney's fees, and all costs incurred by the Owner in completing the Work shall be deducted from any money due or which becomes due the Contractor. If such costs and expenses incurred by the Owner shall be less than the sum which would have been payable under Contract Documents if it had been completed by the Contractor, then the Contractor shall be entitled to receive the difference, but if such costs and expenses shall exceed the sum which would have been payable under the Contract Documents, the Contractor and the Contractor's surety shall be liable to the Owner for and shall pay to the Owner the amount of such excess.

ARTICLE 34. TERMINATION OR SUSPENSION BY THE OWNER FOR CONVENIENCE

- 34.1 The Owner may, without cause, order the Contractor to terminate, suspend, delay, or interrupt the Work in whole or in part for such period of time as the Owner may determine.
- 34.2 If the Contractor is subsequently ordered by the Owner to resume the Work, any cost or expenses to which the Contractor may be entitled by reason of the suspension, delay, or interruption shall be recovered by means of a Change Order in accordance with Articles 13 and 14 hereof and the Contract Construction Schedule shall be adjusted in accordance with Article 13 hereof.
- 34.3 The Owner shall terminate the Work or portion thereof by written notice when the Contractor is prevented from proceeding with the Work as a direct result of an executive order of the President with respect to the prosecution of war or in the interest of national defense.
- 34.4 In the event of termination by the Owner under this Article, the Contractor shall be entitled to receive the reasonable and documented direct costs incurred prior to termination, including the cost of materials purchased for the Work which purchases cannot be canceled or which material cannot reasonably be used by the Contractor on other work, and the cost of closing down the Project in a safe and efficient manner, plus ten percent (10%) thereof for overhead and profit, subject to the following conditions:
 - a) When the Contract is terminated before completion of all items of Work, payment shall be made for the actual number of units or items of Work completed at the applicable contract prices, or as mutually agreed for items of Work partially complete. If a mutual agreement cannot be reached, the Owner shall have the



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authority to make such equitable adjustment as it deems warranted and the Final Payment shall be made accordingly.

- b) Reimbursement for organization of any Work and moving equipment to and from the job shall be considered when not otherwise provided for in the Contract Documents where the volume of completed Work is too small to compensate the Contractor for those expenses under unit prices. If a mutual agreement cannot be reached, the Owner will have the authority to make such equitable adjustments as it deems warranted and the Final Payment will be made accordingly.
- c) Materials obtained by the Contractor for the Work that have been inspected and accepted by the Designer and that are not incorporated in the Work shall, at the request of the Contractor, be purchased from the Contractor at the Contractor's actual cost as shown by receipted bills and actual costs records at such points of delivery as may be determined by the Owner.
- d) No payment shall be made by Owner to Contractor except as herein above provided. No claim for loss of anticipated profits shall be considered or allowed.
- e) Termination of the Contract shall not relieve the Contractor of his responsibilities for any completed portion of the Work nor shall it relieve his sureties of their obligation for and concerning any just claims arising out of the Work performed.

The Contractor shall not be entitled to any other compensation, including compensation for lost profit, lost opportunity, or any other direct or consequential cost, loss, or damage.

ARTICLE 35. MINORITY BUSINESS ENTERPRISE PROGRAM

- 35.1 The Contractor shall at all times comply with the latest edition of the Wake County Minority Business Enterprise Policy. All documentation substantiating compliance with the requirements of this program shall be delivered to the Owner as stipulated in the Contract Documents. A copy of the Wake County Minority Business Enterprise Policy is included in the Project Manual.

ARTICLE 36. GENERAL

- 36.1 If any provision of the Agreement shall be declared invalid or unenforceable, the remainder of the Agreement shall continue in full force and effect.
- 36.2 The titles to Articles herein are for convenience only, are not substantive parts of the General Conditions, and are not to be considered in interpreting the Contract Documents.

END OF GENERAL CONDITIONS OF THE
CONTRACT FOR CONSTRUCTION

APPENDIX A TO GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

DISPUTE RESOLUTION PROCEEDURES FOR WAKE COUNTY BUILDING CONSTRUCTION RENOVATION AND REPAIR PROJECTS

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RULE 1. INITIATING MEDIATED SETTLEMENT CONFERENCES

- A. Purpose of Mandatory Settlement Conferences.** Pursuant to G.S. §143-128(f1) and 143-135.26(11), these Rules are promulgated to implement a mediated settlement program designed to focus the parties' attention on settlement rather than on claim preparation and to provide an opportunity for orderly settlement negotiations to take place. Nothing herein is intended to limit or prevent the parties from engaging in settlement procedures voluntarily at any time prior to or during commencement of the dispute resolution process.
- B. Initiating the Dispute Resolution Process**
- 1) Any party to a County public construction contract (referred to herein generally as the "Contract") governed by Article 8. Ch. 143 of the General Statutes and identified in G.S. § 143-128(f1) and who is a party to a dispute arising out of the Contract and the construction process in which the amount in controversy is at least \$15,000 may submit a written request to the County for mediation of the dispute.
 - 2) Prior to submission of a written request for mediation to the County, the parties should give notice of any and all claims in accordance with their respective contracts, obtain decisions on the claims as required or allowed by their respective contracts, and attempt to resolve the dispute according to the terms and conditions in their respective contracts. The Mediator may adjourn any mediated settlement conference if the Mediator believes, in his or her sole discretion, that the parties have not satisfied all of the terms and conditions of their respective contracts and that doing so will enhance the prospects for a negotiated settlement.
- C. Condition Precedent to Litigation.** Before any party to a Contract may commence a civil action against the County seeking remedies for breach or non-performance of the Contract by the County, said party must first initiate the dispute resolution process under these rules and attend the mediated settlement conference.

RULE 2. SELECTION OF MEDIATOR

- A. Mediator Listing.** A list of Mediators acceptable to the County is attached to and incorporated by reference into these Rules. The party requesting mediation shall select a Mediator from the designated list. If the County fails to provide a list of acceptable mediators, the list of Mediators shall be deemed to be the list of mediators certified by the North Carolina Dispute Resolution Commission to conduct mediated settlement conferences in the North Carolina Superior Courts.
- B. Selection of a Mediator.** The party requesting mediation shall select a Mediator from the County's list of Mediators and shall file, with the County, a Notice of Selection of Mediator within 21 days of the request for mediation. Such notice shall state the name, address, and phone number of the Mediator selected. If the Mediator selected is not available or declines to participate for any reason, the requesting party shall select another person from the County's list of Mediators. If the party requesting

mediation does not select and designate a mediator within 21 days of the request for mediation, the County shall have the right in its absolute discretion to appoint a mediator from its list of Mediators.

- C. **Disqualification of Mediator.** Any party may request replacement of the Mediator for good cause. Nothing in this provision shall preclude Mediators from disqualifying themselves.

RULE 3. THE MEDIATED SETTLEMENT CONFERENCE

- A. **Where Conference is to be Held.** Unless all parties and the Mediator otherwise agree, the mediated settlement conference shall be held in Wake County. The Mediator shall be responsible for reserving a place, making arrangements for the conference, and giving timely notice of the time and location of the conference to all attorneys, unrepresented parties and other persons or entities required to attend.
- B. **When Conference is to be Held.** The mediation shall be completed within 90 days after selection of the Mediator.
- C. **Request to Accelerate or Extend Deadline for Completion.** Any party or the Mediator may request the County to accelerate or extend the deadline for completion of the conference. Such request shall state the reasons the extension is sought and shall be served by the moving party upon the other parties and the Mediator. Objections to the request must be promptly communicated to the County and to the Mediator.

The County, with the concurrence of the designated Mediator, may grant the request by adjusting the time for completion of the conference.

- D. **Recesses.** The Mediator may recess the mediation conference at any time and may set times for reconvening. If the Mediator determines the time and place where the conference is to reconvene before the conference is recessed, no further notice is required to persons present at the conference.
- E. **Project Delay.** The mediated settlement conference that results from a construction contract dispute shall not be cause for the delay of the construction project.

RULE 4. DUTIES OF PARTIES AND OTHER PARTICIPANTS IN FORMAL DISPUTE RESOLUTION PROCESS

- A. **Attendance.**
1. All parties to the dispute must designate an official representative to attend the mediation. .
 2. "Attendance" means physical attendance, not by telephone or other electronic means. Any attendee representing a party must have authority from that party to bind it to any agreement reached as a result of the mediation.

3. Attorneys representing parties may attend the mediation, but are not required to do so.
 4. Sureties and insurance company representatives are required to physically attend the mediation unless the Mediator and all of the other parties to the mediation excuse their attendance or consent to their attendance by telephone or other electronic means.
 5. The parties who attend a duly scheduled mediation conference shall have the right to recover their share of the Mediator's compensation from any party or parties who fail to attend the conference without good cause.
- B. Finalizing Agreement.** If an agreement is reached in the conference, the terms of the agreement shall be confirmed in writing and signed by all parties.
- C. Mediation Fees** charged by the Mediator shall be paid in accordance with G.S. § 143-128(f1).
- D. Failure to compensate Mediator.** Any party's failure to compensate the Mediators in accordance with G.S. § 143-128(f1) shall subject that party to a withholding of said amount of money from the party's monthly payment by the County.

Should the County fail to compensate the Mediator, it shall hereby be subject to a civil cause of action from the Mediator for the 1/3 portion of the Mediator's total fee as required by G.S. § 143-128(f1).

RULE 5. AUTHORITY AND DUTIES OF MEDIATORS

- A. Authority of Mediator.**
1. Control of Conference. The Mediator shall at all times be in control of the conference and the procedures to be followed.
 2. Private Consultation. The Mediator may communicate privately with any participant or counsel prior to and during the conference. The fact that private communications have occurred with a participant shall be disclosed to all other participants at the beginning of the conference.
 3. Scheduling the Conference. The Mediator shall make a good faith effort to schedule the conference at a time that is convenient with the participants, attorneys and Mediator. In the absence of agreement, the Mediator shall select the date for the conference.
 4. Determining good cause for a party's failure to appear at a scheduled mediation conference.

B. Duties of Mediator.

1. The Mediator shall define and describe the following at the beginning of the conference:
 - a. The process of mediation.
 - b. The difference between mediation and other forms of conflict resolution.
 - c. The costs of the mediated settlement conference.
 - d. That the mediated settlement conference is not a trial, the Mediator is not a judge, and the parties retain their legal rights if they do not reach settlement; however, the Mediator will advise all parties that failure to appear at mediation without good cause may result in imposition of sanctions and may be asserted as a bar to lawsuits by claimants who have failed to exhaust this administrative remedy.
 - e. The circumstances under which the Mediator may meet and communicate privately with any of the parties or with any other person.
 - f. Whether and under what conditions communications with the Mediator will be held in confidence during the conference.
 - g. The inadmissibility of conduct and statements as provided by G.S. §7A-38.1(1).
 - h. The duties and responsibilities of the Mediator and the participants.
 - i. That any agreement reached will be reached by mutual consent.
2. Disclosure: The Mediator has a duty to be impartial and to advise all participants of any possible bias, prejudice or partiality.
3. Declaring Impasse: The Mediator may determine at any time during the mediation conference that an impasse exists and that the conference should end.
4. Reporting Results of Conference. The Mediator shall submit a written report to the County and the other parties within 10 days of the conference stating whether or not the parties reached an agreement. The Mediator's report shall indicate the absence of any party from the mediated settlement conference without permission or good cause.
5. Scheduling and Holding the Conference. It is the duty of the Mediator to schedule the conference and conduct it prior to the deadline of completion set by the rules. The Mediator shall strictly observe deadlines for completion of the conference unless said time limit is changed by agreement of the parties.

RULE 6. COMPENSATION OF THE MEDIATOR

- A.** The parties shall compensate the Mediator for mediation services at the rate proposed by the Mediator and agreed to by the parties at the time the Mediator is selected. .

RULE 7. RULE MAKING

- A. These Rules may be amended by the County at any time. Amendments will not affect mediations where claims and/or requests for mediation have been filed at the time the amendment takes effect

RULE 8. DEFINITIONS

- A. “County” shall mean the County of Wake, North Carolina
- B. “Project Designer” is that person or firm stipulated as project designer in the Contract Documents for the project.
- C. “Claim” is a demand or assertion by a party seeking adjustment or interpretation of Contract terms, payment of money, extension of time or other relief with respect to the terms of the Contract. The term “Claim” also includes other disputes and matters in question between the parties to a Contract involved in the County’s building construction renovation and repair projects arising out of or relating to the Contract or the construction process. Claims must be initiated by a written notice. The responsibility to substantiate Claims shall rest with the party making the Claim.
- D. “Good Cause” generally includes any circumstance beyond the control of a party, which prevents that party from meeting obligations. When good cause is asserted as an excuse for a party’s failure to appear at a mediation conference or to otherwise comply with the requirements of these Rules, the Mediator, in his or her sole discretion, will determine whether good cause exists to excuse the party’s failure to appear or otherwise comply with these rules.

RULE 9. TIME LIMITS

- A. Any time limit provided for by these Rules may be waived or extended at the sole discretion of the County, if no Mediator has been selected, and at the discretion of the County with concurrence of the Mediator if a Mediator has been selected.

SUPPLEMENTARY GENERAL CONDITIONS

GENERAL

This Supplementary Conditions contains changes and additions to the project "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION", as published herein. Where any Article of the General Conditions is modified or any Paragraph, Subparagraph or Clause thereof is modified or deleted by these Supplementary Conditions, the unaltered provisions of the Article, Paragraph, Subparagraph or Clause shall remain in effect.

ARTICLE 1. Definitions

Paragraph 1.13: At the end of the existing paragraph, add the following:

“The Contract Time is 45 consecutive calendar days, beginning on the Date of Commencement as specified in the written Notice-to-Proceed.”

Paragraph 1.17: Add the following:

“The Designer/Firm for this contract is: Alpha & Omega Group, PC
4601 Lake Boone Trail, Suite 3C
Raleigh, NC 27607 (919) 981-0310

Paragraph 1.18: Delete the last sentence in its entirety and substitute the following in lieu thereof:

“A list of the Drawings is contained in the “Supplementary General Conditions.”

The Drawings applicable to this Contract are as follows:

CVR	Cover Sheet
C1.0	Existing Conditions
C1.1	Overall Erosion and Sediment Control Plan
C1.2	Erosion and Sediment Control Details
C1.3	NCGO1 Notes
C1.4	NCGO1 Notes
C2.0	Repair Area #1 Plan & Details
C2.1	Repair Area #2 Plan & Details
C2.2	Repair Area #3 Plan & Details
C2.3	Drainage Plan & Profile

Paragraph 1.27: Add the following:

“Owner’s Authorized Representative:

Project Manager: Matthew Hart, PE, PMP
Wake County General Services Admin.
P.O. Box 550
Raleigh, NC 27602

(919) 870-4035

Paragraph 1.29: Add the following:

“The Project is titled “Wake County Dam #2 Hatcher’s Grove Auxiliary Spillway Repair”. All required papers shall be delivered to the Project Manager listed above unless otherwise directed in writing to the Contractor.”

ARTICLE 3. Familiarity with Work, Conditions and Laws

Paragraph 3.3: Add the following:

“All Project Work shall conform to the regulations, codes, and standards of the following institutions or agencies:

American National Standards Institute (ANSI)
American Society of Testing and Materials (ASTM)
American Welding Society (AWS)
North Carolina State Building Code (NCSBC)
North Carolina Division of Environmental Health (DEH)
Occupational Safety and Health Act (OSHA)”

ARTICLE 6. Other Record Documents and Submittals

Paragraph 6.1: At the end of the existing paragraph, add the following:

“Four (4) copies of the Contract Documents will be furnished to the General Contractor.”

ARTICLE 10. Designer

Add the following paragraphs:

“10.5 As a part of its Basic Services under the Owner-Designer Agreement, the Designer will conduct a single site visit to determine Substantial Completion of the Work.

If, after the performance of said site visit, the Designer determines that the Work is not substantially complete, successive site visits to determine Substantial Completion will be deemed Additional Services under the Owner-Designer Agreement. The Contractor shall be liable to the Owner for any Designer’s fees incurred as a result of any such Additional Services of the Designer. Any funds due under this paragraph may be deducted by the Owner from the amounts due the Contractor for such additional Designer’s fees and paid directly to the Designer. Should the cost for such Additional Services of the Designer exceed the amount due or to become due to the Contractor, then the Contractor and his sureties shall be liable for and shall pay to the Owner the amount of any such excess.

- “10.6 As a part of its Basic Services under the Owner-Designer Agreement, the Designer will conduct a single site visit to determine Final Completion of the Work. If, after the performance of said site visit, the Designer determines that the Work is not complete, successive site visits to determine Final Completion of the Work will be deemed Additional Services under the Owner-Designer Agreement. The Contractor shall be liable to the Owner for any Designer's fees incurred as a result of any such Additional Services of the Designer. Any funds due under this paragraph may be deducted by the Owner from the amounts due the Contractor for such additional Designer's fees and paid directly to the Designer. Should the cost for such Additional Services of the Designer exceed the amount due or to become due to the Contractor, then the Contractor and his sureties shall be liable for and shall pay to the Owner the amount of any such excess.”

ARTICLE 13. Contract Time

Paragraph 13.1: The existing paragraph is revised to read as follows:

Within fourteen (14) days after receipt of the Construction Agreement by the Contractor for signatures, the Project Expediter shall prepare and submit to the Designer and Owner for review and approval a coordinated construction schedule for the Work pursuant to the requirements stated in the Contract Documents.

Paragraph 13.18: Add the following:

“If the Contractor fails to achieve Substantial Completion of the Work within the Contract Time and as otherwise required by the Contract Documents, the Owner shall be entitled to retain or recover from the Contractor, as Step One Liquidated Damages and not as a penalty, the following per diem amount commencing upon the first day following expiration of the Contract Time and continuing until the actual date of Substantial Completion. Such liquidated damages are hereby agreed to be a reasonable pre-estimate of damages the Owner will incur as a result of delayed Substantial Completion of the Work:

Two Hundred Dollars (\$200.00) per consecutive calendar day

If the Contractor fails to achieve Final Completion of the Work within thirty (30) consecutive calendar days of the actual date of Substantial Completion of the Work, the Owner shall be entitled to retain or recover from the Contractor, as Step Two Liquidated Damages and not as a penalty, the following per diem amount commencing upon the first day following the actual date of Substantial Completion and continuing until the actual date of Final Completion. Such liquidated damages are hereby agreed to be a reasonable pre-estimate of damages the Owner will incur as a result of delayed Final Completion of the Work:

One Hundred Dollars (\$100.00) per consecutive calendar day

The Owner may deduct liquidated damages described above from any unpaid amounts then or thereafter due the Contractor under this Agreement. Should the amount of any liquidated damages exceed the amount due or to become due to the Contractor, then the Contractor and his sureties shall be liable for and shall pay to the Owner the amount of any such excess.”

ARTICLE 29. Taxes

Paragraph 29.1: Add the following to the existing paragraph:

“The Contractor is to use the Sales Tax Reporting Form attached to Section 012900 of the contract documents for reporting taxes paid.”

ARTICLE 35. Minority Business Enterprise Program

The owner will decide if the MBE program is required for this project.

ARTICLE 36. General

Add the following paragraph:

“36.3 Any specific requirement in this Contract that the responsibilities or obligations of the Contractor also apply to a Subcontractor is added for emphasis and is also hereby deemed to include a Subcontractor of any tier. The omission of a reference to a Subcontractor in connection with any of the Contractor’s responsibilities or obligations shall not be construed to diminish, abrogate, or limit any responsibilities or obligations of a Subcontractor of any tier under the Contract Documents or the applicable subcontract.”

END OF SUPPLEMENTARY GENERAL CONDITIONS

SECTION 011000 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including General and Supplemental Conditions and other Division 1 specification sections, apply to this section.
- B. All work at the Dam #2 Hatcher's Grove Auxiliary Spillway Repair will be bid according to the laws and regulations applicable to the Construction of Public Facilities and the Laws and Regulations applicable to Contracting in the State of North Carolina.

1.2 PROJECT DESCRIPTION

- A. Project Name and Address:
Wake County Dam #2 Hatcher's Grove Auxiliary Spillway Repair:
Off Morrisville Parkway
Cary, NC
(35°48'53.75"N, 78°51'15.57"W)

- B. Work Description:

The work includes repairing the spillway side slopes in two locations, installing a drainage swale with a riprap apron, and installing a subsurface drainage pipe network with a series of yard inlets as shown on the construction plans entitled "Wake Grove Dam #2, Hatcher's Grove Auxiliary Spillway Repair, Cary North Carolina, (Cary Plan #21-DP-7952) Dated March 10, 2021)". The two side slope repairs involve excavating the existing unstable soil from the spillway side slope wall that has caused sloughing and then replaced it with compacted approved backfill (USCS Groups SC, SM, CL and ML). Area one is approximately 200 feet long and 40 feet wide and area two is approximately 80 feet long and 40 feet wide. The third work area involves constructing a 250 foot long by 6 foot wide by 1 foot deep drainage swale along with a 16 foot long rip-rap outlet apron. The swale will be armored with a pinned in place TRM (Turf Reinforcement Matting).

Adjacent to work area 1 additional work is required to install 430 linear feet of subsurface drainage pipe (HDPE) with 4 drainage yard inlets and 1 drainage manhole. A surface v-ditch will be constructed connecting the yard inlets to convey the surface flow.

- C. Bidding:

- 1. One Construction Contract for General Construction will be awarded for this project. The contract responsibilities are as follows:

- a. General Construction Contract:
 - Project Expediter.
 - Prepare a detailed schedule for the coordinated effort at site.
 - Prevention of public access for safety.
 - Install temporary erosion control measures.
 - Complete work listed in Section B above.
 - Clean up and restoration of site and/or any staging area(s).
 2. All bidding and construction administration will be coordinated through the office of Wake County General Services Admin with assistance from the Engineering Consultant listed in the Supplemental General Conditions.
- D. Principal Items of Work:
1. Included, but not limited thereto, as principal items of work under the General Construction Contract are:
 - a. Mobilization to the project site(s), and establishment of any required temporary facilities.
 - b. Site preparation including barricades, tree protection fencing, signs, or other separation devices to prevent access of the area surrounding the work area and/or staging area.
 - c. Install temporary silt fence and outlets to and along the work area and along the temporary access as shown on the plans. Place tree protection fencing to delineate work area and access road. Install tree protection fencing to protect the existing paved asphalt trail.
 - d. Construct/Install/Repair the auxiliary spillway as described above in Section B.
 - e. Clean up of the site for project completion and owner occupancy.
 2. Technical specifications for the Construction Contract are contained herein in Divisions 1 through 31. The Construction Contract covers all work shown on the Construction plans.
- E. Special Requirements:
1. During the construction period the Contractor shall coordinate construction activities with the Owner during business hours. The construction limits and site access shall be held to a minimum. The Contractor's use of the premises is limited only by the Owner's right to perform uninterrupted activities with its own forces or those employed by the Owner as detailed in the Contractor's Coordination Schedule.
 2. During construction, the Contractor shall abide by the Town of Cary ordinances and requirements related to working within a utility easement.
 3. During construction, Wake County and/or the USDA-NRCS may require such progress reports as are deemed necessary.

4. The Owner will accommodate the Contractor with access to the site and provide sufficient area to perform daily work activities for the completion of the project.
5. During rain and storm events, the Contractor shall monitor the lake level. If a significant rise is expected, the Contractor shall notify owner and engineer. Secure all erosion and sediment control measures and protect materials at the project site.
6. Prior to final acceptance, contractor shall provide as-built drawings for review, and approval by the design engineer.

1.3 CONSTRUCTION SEQUENCE

- A. Contractor's Coordination Schedule: Requirements for scheduling of work are stated in the General and Supplemental Conditions.
- B. Contingency for rain or storm events.

1.4 OWNER OCCUPANCY

- A. Partial Owner Occupancy: The Owner reserves the right to access the site prior to Substantial Completion provided that such occupancy does not interfere with the completion of the work. Such occupancy shall not constitute acceptance of the total work.

1.5 OWNER FURNISHED ITEMS

- A. The following equipment, materials, and services will be provided by the Owner for this project.
 1. None

END OF SECTION 011000

SECTION 012000 - PROJECT MEETINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for project meetings including but not limited to:
 - 1. Pre-Construction Conference.
 - 2. Coordination Meetings.
 - 3. Progress Meetings.

1.3 PRE-CONSTRUCTION CONFERENCE

- A. A pre-construction conference and organizational meeting will be scheduled at the Project Site or other convenient location no later than 15 days after execution of the agreement and prior to commencement of construction activities. The meeting will be conducted to review responsibilities and personnel assignments.
 - 1. Attendees: The Owner, Owner's Representative, Consulting Engineer(s), the Contractor and its superintendent, major subcontractors, manufacturers, suppliers, and other concerned parties shall each be represented at the conference by persons familiar with and authorized to conclude matters relating to the work.
 - 2. Agenda: Discussion of items of significance that could affect progress will include such topics as:
 - a. Tentative construction schedule.
 - b. Critical Work sequencing.
 - c. Designation of responsible personnel.
 - d. Procedures for processing payment applications, field decisions and Change Orders.
 - e. Procedures of Contract Documents.
 - f. Submittals of Shop Drawings, Product Data and Samples.
 - g. Preparation of record documents.
 - h. Use of the premises.
 - i. Office, work and storage areas.
 - j. Equipment deliveries and priorities.
 - k. Safety procedures.
 - l. Housekeeping.
 - m. Working hours.

1.4 COORDINATION MEETINGS

- A. Owner's Representative will conduct project coordination meetings at regularly scheduled times convenient for all parties involved. Project coordination meetings are in addition to specific meetings held for other purposes, such as regular progress meetings.
- B. Representation is required at each meeting by every party currently involved in coordination or planning for the construction activities involved.
- C. Owner's Representative will record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

1.5 PROGRESS MEETINGS

- A. Progress meetings will be conducted at the project site at bi-weekly intervals. Coordinate dates of preparation of the payment requests with meetings held in the last week of the month.
 - 1. Attendees: In addition to representatives of the Owner, and the Contractor, each Subcontractor, supplier, or other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings by persons familiar with the Project and authorized to conclude matters relating to progress. The Contractor shall be represented by the resident superintendent and the home office project managers.
 - 2. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the current status of the Project.

1.6 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule: Review progress since the last meeting. Determine status of each activity in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time. The present and future needs of each entity present will be reviewed, including such items as:
 - a. Interface requirements.
 - b. Time.
 - c. Sequences.
 - d. Deliveries.
 - e. Access.
 - f. Site utilization.
 - g. Temporary facilities and services.
 - h. Hours of work.
 - i. Hazards and risks.

- j. Housekeeping.
 - k. Quality and Work standards.
 - l. Change Orders.
 - m. Documentation of information for payment requests.
1. Reporting: After each progress meeting, copies of minutes of the meeting will be distributed to each party present and to other parties who should have been present. Attendance will be noted in the minutes.
 2. Schedule Updating: Revise the construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.

END OF SECTION 012000

SECTION 012700 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for unit prices.
- B. Related Sections include the following:
 - 1. Division 31 Section 312000 - "Earth Moving" for procedures for measurement and payment for excavation of unsuitable material.

1.3 DEFINITIONS

- A. Unit price is an amount proposed by bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: Refer to individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A list of unit prices is included at the end of this Section. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 LIST OF UNIT PRICES

A. Unit Price No. 1 – Mobilization:

1. Description: Mobilization of the Contractor's forces and equipment necessary for performing the work required under this contract.
2. Unit of Measurement: Lump sum. (LS).

B. Unit Price No. 2 – Construction Survey and Staking:

1. Description: Field verify all elevations and dimensions.
2. Unit of Measurement: Lump sum. (LS).

C. Unit Price No. 3 – Temporary Construction Entrance:

1. Description: Furnish, install, maintain and remove all material required to construct a temporary entrance to the work site.
2. Unit of Measurement: Lump sum. (LS).

D. Unit Price No. 4 – Temporary Silt Fence:

1. Description: To prevent transport of sedimentation and prevent soil erosion.
2. Unit of Measurement: Per linear foot measured in place.
3. 870 linear feet (LF) shall be included in the base bid.

E. Unit Price No. 5 – Temporary Silt Fence Outlet:

1. Description: #57 washed stone to create a filter through silt fence.
2. Unit of Measurement: Per each item installed.
3. 10 each (EA) shall be included in the base bid.

F. Unit Price No. 6 – Erosion Control Blanket:

1. Description: Placed on the reconstructed slope and the installed along the V-ditch to prevent erosion.
2. Unit of Measurement: Per square yard measured in place.
3. 1425 square yards (SY) shall be included in the base bid.

G. Unit Price No. 7 – Turf Reinforcement Mat:

1. Description: Placed on the reconstructed slope to prevent erosion.
2. Unit of Measurement: Per square yard measured in place.
3. 333 square yards (SY) shall be included in the base bid.

H. Unit Price No. 8 – Seeding and Mulching:

1. Description: Placed over all disturbed areas to restore grass.
2. Unit of Measurement: Per acre measured in place.
3. 0.50 acres (AC) shall be included in the base bid.

I. Unit Price No. 9 – Tree Protection Fence:

1. Description: Placed to protect existing trees and shrubs from damage.
2. Unit of Measurement: Per linear foot measured in place.
3. 1995 linear feet (LF) shall be included in the base bid.

J. Unit Price No. 10 – Clearing and Grubbing:

1. Description: Removal of top soil and deleterious material from the work area.
2. Unit of Measurement: Per acre measured in place.
3. 0.24 acres (AC) shall be included in the base bid.

K. Unit Price No. 11 – 18-inch Dia. HDPE Pipe:

1. Description: Subsurface drainage to protect the reconstructed slope.
2. Unit of Measurement: Per linear foot measured in place.
3. 430 linear feet (LF) shall be included in the base bid.

L. Unit Price No. 12 – Concrete Yard Inlet:

1. Description: Unit of Measurement: Per each item installed.
2. Unit of Measurement: Per each item installed.
3. 4 each (EA) shall be included in the base bid.

M. Unit Price No 13. – Concrete Manhole:

1. Description: Unit of Measurement: Per each item installed.
2. Unit of Measurement: Per each item installed.
3. 1 each (EA) shall be included in the base bid.

N. Unit Price No 14. – Class B Rip Rap Stone:

1. Description: Satisfactory Soils ASTM D 2487 Groups SC, SM, CL, and ML according to Division 31 Section 312000- "Earth Moving".
2. Unit of Measurement: Per cubic yard measured in place.
3. 16 cubic yards (CY) shall be included in the base bid.

O. Unit Price No 15. – Non-woven Filter Fabric:

1. Description: Place in slope drain excavation prior to washed stone and drainage pipe.
2. Unit of Measurement: Per square foot measured in place.
3. 250 square feet (SF) shall be included in the base bid

P. Unit Price No. 16 – Select Fill:

1. Description: Satisfactory Soils ASTM D 2487 Groups SC, SM, CL, and ML according to Division 31 Section 312000 - "Earth Moving".
2. Unit of Measurement: Per cubic yard measured in place.
3. 1515 cubic yards (CY) shall be included in the base bid.

Q. Unit Price No. 17 – Grading:

1. Description: Removal of unsuitable soil, backfill with select fill, compaction and grading of placed fill.
2. Unit of Measurement: Per square yard (SY) measured in place.
3. 1950 square yards shall be included in the base bid.

END OF SECTION 012700

Application and Certificate for Payment

TO OWNER:	PROJECT: Sample Application & Certificate for Payment Sample	APPLICATION NO: 001	Distribution to: OWNER: <input type="checkbox"/> ARCHITECT: <input type="checkbox"/> CONTRACTOR: <input type="checkbox"/> FIELD: <input type="checkbox"/> OTHER: <input type="checkbox"/>
FROM	VIA	PERIOD TO:	
CONTRACTOR:	ARCHITECT:	CONTRACT FOR: General Construction	
		CONTRACT DATE:	
		PROJECT NOS: 00041000 / / 503xxxxx	

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet, AIA Document G703, is attached.

1. ORIGINAL CONTRACT SUM	\$	0.00
2. Net change by Change Orders	\$	0.00
3. CONTRACT SUM TO DATE (Line 1 ± 2)	\$	0.00
4. TOTAL COMPLETED & STORED TO DATE (Column G on G703)	\$	0.00
5. RETAINAGE:		
a. 0 % of Completed Work (Column D + E on G703)	\$	0.00
b. 0 % of Stored Material (Column F on G703)	\$	0.00
Total Retainage (Lines 5a + 5b or Total in Column I of G703)	\$	0.00
6. TOTAL EARNED LESS RETAINAGE	\$	0.00
(Line 4 Less Line 5 Total)		
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT	\$	0.00
(Line 6 from prior Certificate)		
8. CURRENT PAYMENT DUE	\$	0.00
9. BALANCE TO FINISH, INCLUDING RETAINAGE		
(Line 3 less Line 6)	\$	0.00

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	\$ 0.00	\$ 0.00
Total approved this Month	\$ 0.00	\$ 0.00
TOTALS	\$ 0.00	\$ 0.00
NET CHANGES by Change Order	\$	0.00

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:

By: _____

Date: _____

State of: _____

County of: _____

Subscribed and sworn to before
me this _____ day of _____

Notary Public: _____

My Commission expires: _____

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED \$ 0.00

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:

By: _____

Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract

DRAFT AIA® Document G703™ – 1992

Continuation Sheet

AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor's signed certification is attached.
In tabulations below, amounts are stated to the nearest dollar.
Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO: 001

APPLICATION DATE:

PERIOD TO:

ARCHITECT'S PROJECT NO: 00041000

A	B	C	D	E	F	G		H	I
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	WORK COMPLETED		MATERIALS PRESENTLY STORED (NOT IN D OR E)	TOTAL COMPLETED AND STORED TO DATE (D+E+F)	%(G ÷ C)	BALANCE TO FINISH (C - G)	RETAINAGE (IF VARIABLE RATE)
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD					
	GRAND TOTAL	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	0.00 %	\$ 0.00	\$ 0.00

SECTION 012900 – PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with Continuation Sheets.
 - b. Submittals Schedule.
 - 2. Submit the Schedule of Values to Engineer at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.
 - 1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name of Engineer.
 - c. Project ID Number.
 - d. Contractor's name and address.
 - e. Date of submittal.

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

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Engineer and paid for by Owner.
 1. Initial Application for Payment and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date and period for each progress payment will be determined during the pre-construction meeting.

- C. Payment Application Forms: Use forms provided by Owner for Applications for Payment. (AIA Document G702 - 1992)
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Engineer will return incomplete applications without action.
 - 1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
 - 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
 - 3. Include completed County Sales and Use Tax Report form. (Sample Form A)
- E. Transmittal: Submit 4 signed and notarized original copies of each Application for Payment to Engineer by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
 - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
 - 1. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 - 2. Submit final Application for Payment with or proceeded by final waivers from every entity involved with performance of the work covered by the application that is lawfully entitled to a lien.
 - 3. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.
- G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 - 1. List of subcontractors.
 - 2. Schedule of Values.
 - 3. Contractor's Construction Schedule.
 - 4. List of Contractor's staff assignments.
 - 5. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 - 6. Certificates of insurance and insurance policies.

H. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. "Contractor's Affidavit of Payment of Debts and Claims."
5. "Contractor's Affidavit of Release of Liens."

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

APPENDIX B
CONTRACTOR'S SALES TAX REPORT
N.C. STATE & LOCAL SALES TAXES PAID

OWNER: _____
CONTRACTOR: _____
ADDRESS: _____

PROJECT: _____
FOR PERIOD: _____
TO: _____

								NAME OF COUNTY	
								WHERE GOODS	
VENDOR	MATERIAL PURCHASED	ADDRESS	INVOICE NUMBER	DATE	INVOICE SUBTOTAL	N.C. TAX	COUNTY TAX	TRANSIT TAX	WERE RECEIVED

SECTION 013000 - SUBMITTALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for submittal of shop drawings, product data, and samples to verify that products, materials, and systems proposed for use comply with provisions of the Contract Documents.
- B. Shop drawings include, but are not limited to, the following:
 - 1. Schedules.
 - 2. Design mix formulas.
- C. Standard information prepared without specific reference to the Project is not considered to be shop drawings.
- D. Coordination drawings are a special type of shop drawing that show the relationship and integration of different construction elements that require close and careful coordination during fabrication or during installation to fit in the restricted space provided or to function as intended.
- E. Additional information regarding preparation of coordination drawings may be specified in the "Project Coordination" section and may include components previously shown in detail on shop drawings or product data.
- F. Product data includes, but is not limited to, the following:
 - 1. Manufacturer's product specifications.
 - 2. Manufacturer's installation instructions.
 - 3. Standard color charts.
 - 4. Catalog cuts.
 - 5. Mill reports.
 - 6. Warranties.
- G. Administrative Submittals: Refer to other Division 1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
 - 1. Applications for payment.
 - 2. List of Subcontractors.

1.3 SUBMITTAL PROCEDURES

- A. Contractor's Approval: The Contractor shall check, review, and approve shop drawings, product data, and samples for dimensions, means, methods, techniques, sequences, and operations of construction, safety precautions, and programs incidental thereto, and conformance with requirements of the Contract Documents.

Prior to submitting to the Owner's Representative, stamp each submittal to indicate approval. Submittals transmitted to the Owner's Representative without Contractor's approval or not in strict compliance with this section will be returned to the Contractor without review or comment.

1. The Contractor shall inform the Owner's Representative in separate correspondence attached to the submittal form of any deviations in the submittal from the requirements of the Contract Documents. Deviations from the requirements of the Contract Documents included in a submittal reviewed by the Owner's Representative or his consultants are not accepted unless they have been identified by the Contractor in writing and specifically acknowledged as having been reviewed by the Owner's Representative.
 2. It shall be the sole responsibility of the prime contractor submitting any deviations to the contract requirements to advise all its subcontractors of the deviations and the impact of such deviations on their work. Prime contractors proposing deviations from the contract documents shall also maintain sole responsibility of any cost impact of those deviations.
- B. Coordination: Coordinate preparation and processing of submittals with performance of the Work and in accordance with the approved Construction Register. Transmit each submittal to the Owner's Representative sufficiently in advance of scheduled performance of related construction activities to avoid delay.
1. Coordinate each submittal with other submittals and related activities that require sequential activity, including:
 - a. Testing.
 - b. Purchasing.
 - c. Fabrication.
 - d. Delivery.
 2. Coordinate transmittal of different types of submittals for same elements of the Work and different elements of related parts of the Work so processing will not be delayed by the Owner's Representative's need to review submittals concurrently for coordination.
 - a. The Owner's Representative reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
 3. Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.
 - a. Allow two weeks for reprocessing each submittal.
 - b. Advise the Owner's Representative when processing time is critical to progress and the Work would be expedited if processing time could be shortened.
 - c. No extension of Contract Time will be authorized because of the Contractor's failure to transmit submittals to the Owner's Representative sufficiently in advance of the Work to permit processing.

- C. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
 - 1. Provide a space approximately 4" x 5" on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
 - 2. Include the following information on the label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of Owner's Representative
 - d. Name and address of Contractor.
 - e. Name and address of subcontractor.
 - f. Name and address of supplier.
 - g. Name of manufacturer.
 - h. Number and title of appropriate Specification Section.
 - i. Drawing number and detail references, as appropriate.
 - j. Submittal name.
- D. Submittal Transmittal: Contractors are to use CSI Form 12.1A or substitute approved by Owner's Representative. An electronic copy can be provided upon request.

1.4 CONTRACT CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Prepare a fully developed, horizontal bar-chart type Contractor's construction schedule. Submit within 14 days of conditional contract award.
 - 1. Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week, at a minimum. Use the same breakdown of units of the Work as indicated in the "Schedule of Values."
 - 2. Prepare the schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period.
 - 3. Secure time commitments for performing critical elements of the Work from parties involved. Coordinate each element on the schedule with other construction activities, including minor elements involved in the sequence of the Work. Show each activity in proper sequence. Indicate graphically sequences necessary for completion of related portions of the Work.
 - 4. Coordinate the Contractor's construction schedule with the schedule of values, list of subcontracts, Construction Register, progress reports, payment requests, and other schedules.
 - 5. Indicate completion in advance of the date established for Substantial Completion. Indicate Substantial Completion on the schedule to allow time

for the Owner's Representative's procedures necessary for certification of Substantial Completion.

6. Indicate by shading or other designation activities, which determine the critical path, have no float, and control project completion.
- B. Phasing: Provide notations on the schedule to show how the sequence of the work is affected by any specified requirements for phased completion to permit work by other Contractors or partial occupancy by the Owner prior to Substantial Completion.
- C. Work Stages: Indicate important stages of construction for each major portion of the work, including testing and installation.
- D. Area Separations: Provide a separate time bar to identify each major construction area for each major portion of the work. Indicate where each element in an area must be sequenced or integrated with other activities.
- E. Distribution: Following response to the initial submittal, print, and distribute copies to the Owner's Representative, other contractors, subcontractors, and other parties who may be required to comply with scheduled dates.
 1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.
- F. Schedule Updating: Revise the schedule after each meeting or activity where revisions have been recognized or made. Issue the updated schedule concurrently with report of each progress and coordination meeting.

1.5 CONSTRUCTION REGISTER

- A. After development and acceptance of the Contractor's construction schedule, prepare a complete schedule of submittals. Submit the schedule within 10 days of the date required for establishment of the Contractor's construction schedule.
 1. Coordinate Construction Register with the list of subcontractors, schedule of values, product listing, as well as the Contract Construction Schedule.
 2. Prepare the schedule in chronological order. Provide the following information for each submittal:
 - a. Submittal category and name.
 - b. Name of contractor, if applicable.
 - c. Brief description of the part of the work covered.
 - d. Related Section number.
 - e. Scheduled date for delivery of submittal to Owner's Representative.
 - f. Scheduled date for the Owner's Representative's final review of submittal.
 3. Prepare the Construction Register with columns for recording actual dates of submittal processing.

- B. Distribution: Following response to initial submittal, print, and distribute copies to the Owner's Representative, subcontractors, suppliers, and other parties who are required to comply with submittal dates indicated. Post copies in the Project meeting room and field office.
 - 1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.
- C. Updating Construction Register: Revise the schedule after each meeting or activity where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

1.6 DAILY CONSTRUCTION REPORTS

- A. Prepare a daily construction report, recording the following information concerning events at the site, sign report, and submit legible copies to the Owner's Representative at weekly intervals:
 - 1. List of subcontractors at the site.
 - 2. Approximate count of contractor's personnel at the site.
 - 3. High and low temperatures--general weather conditions.
 - 4. Work accomplished.
 - 5. Significant materials and equipment received.
 - 6. Accidents and unusual events.
 - 7. Meetings and significant decisions.
 - 8. Stoppages, delays, shortages, and losses.
 - 9. Emergency procedures implemented.
 - 10. Orders and requests of governing authorities and the Owner's Representative.
 - 11. Change Orders received/implemented.
 - 12. Services connected/disconnected.
 - 13. Partial Completions and occupancies.
 - 14. Substantial Completions authorized.

1.7 SPECIFIC SUBMITTAL REQUIREMENTS

- A. Shop Drawings: Submit newly prepared information drawn to accurate scale. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Highlight, encircle, or otherwise indicate deviations from the Contract Documents on the Shop Drawings.
 - 1. Include the following information on shop drawings:
 - a. Dimensions.
 - b. Identification of products and materials included.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.

2. Sheet Size: Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2" x 11" but no larger than 24" x 36."
3. Shop Drawing Submittal: Submit two correctable translucent reproducible prints and three blue or black-line prints for the Engineer Consultant's review; the reproducible print will be returned.
 - a. One of the reproducible prints returned shall be marked-up by the contractor to reflect as-built conditions and maintained as a "Record Document."
4. Distribution: Furnish copies of final Shop Drawing submittal to manufacturers, subcontractors, suppliers, fabricators, installers, governing authorities, and others as required for performance of the construction activities. Show distribution on the transmittal forms.

1.8 OWNERS REPRESENTATIVE'S ACTION

- A. Except for submittals for record, information, or similar purposes where action and return is required or requested, the Owner's Representative will review each submittal, mark to indicate action taken, and return promptly.
 1. Compliance with specified characteristics is the Contractor's responsibility and not considered part of the Owner's Representative's review.
- B. Action Stamp: The Owner's Representative or his consultant will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, as follows, to indicate the action taken:
 1. Final Unrestricted Release: Where submittals are marked "No Exception Taken," that part of the Work covered by the submittal may precede provided it complies with requirements of the Contract Documents--final acceptance will depend upon that compliance.
 2. Final-But-Restricted Release: When submittals are marked "Make Corrections Noted" that part of the Work covered by the submittal may precede provided it complies with notations or corrections on the submittal and requirements of the Contract Documents--final acceptance will depend on that compliance.
 3. Returned for Resubmittal: When submittal is marked "Rejected or Revise and Resubmit," do not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations--resubmit without delay. Repeat if necessary to obtain a different action mark.
 - a. Do not permit submittals marked "Rejected or Revise and Resubmit" to be used at the Project site or elsewhere where work is in progress.
 4. Other Action: Where a submittal is primarily for information or record purposes, special processing, or other activity, the submittal will be returned only upon request and may be marked "Action Not Required."

END OF SECTION 013000

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Section:
 - 1. Division 01 Section "Summary" for work restrictions, limitations and interruptions.

1.2 BARRICADES, WARNING SIGNS, AND LIGHTS

- A. The Contractor shall furnish all barricades, signs, lights, and other safety devices to protect his construction and protect the public. Comply with recognized standards and code requirements for erection of substantial barricades where needed to prevent accidents. Paint barricades with appropriate colors, graphics, and warning signs to inform personnel and the public of the hazard at the construction site. Provide lighting where needed, including flashing red lights where appropriate. These devices shall remain in place until Final Cleanup.

1.3 MAINTENANCE

- A. Do not allow unsanitary conditions, public nuisances, or hazardous conditions to develop or persist on the construction site. Contractor will periodically clean the project site from accumulated debris or as directed by the Owner or Owner's representative.

1.4 SAFETY MEASURES

- A. In addition to complying with safety requirements set forth in the General Conditions, the Contractor shall:
 - 1. Inform himself of and fully comply with all applicable requirements of the Williams-Steiger Occupational Safety and Health Act of 1970 (Public Law 91-596) in the performance of work required under this Construction Contract. The County shall not be responsible for making the contractor comply with safety standards.
 - 2. The Contractor shall adhere to the rules, regulations, and interpretations of the Secretary of the United States Department of Labor (29 Code of Federal Regulations (CFR) Part 1518) relating to safety and health for construction. The applicable occupational health and safety standards are hereby incorporated into these Contract Specifications.

1.5 EROSION CONTROL MEASURES

- A. Contractor shall follow all the rules set out in the regulations and recommendations published by the Associated General Contractors (AGC) and the North Carolina Department of Labor. The Contractor shall use every effort to safeguard life and property throughout the performance of his operations.

1.6 BASIS FOR PAYMENT

- A. All work covered by this section shall be included in the base bid.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 015000

SECTION 017000 – PROJECT CLOSEOUT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:
 - 1. Inspection procedures.
 - 2. Project record document submittal.
 - 3. Submittal of warranties.
 - 4. Final cleaning.
- B. Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions-2 through -16.

1.3 PRELIMINARY SUBMISSIONS

- A. Operating and Maintenance Submission at 80% billing.

Submit the following for approval prior to requesting a final review for Certification of Substantial Completion and prior to submitting an application for payment that shows the work 80% complete:

 - 1. Bind operation and maintenance manuals and specific warranties in triplicate.
 - 2. Bind all documents in 3-ring binders.
 - 3. Type identifying labels behind clear plastic on edge of binder.
 - 4. Organize contents with marked reinforced index tabs in 16 Division format.
- B. Shop Drawings for Owner

Submit, also at 80% billing, a complete set of legible Contractor's approved, field use, shop drawings folded up in reinforced cardboard file storage boxes. Organize using expandable file folder pouches. Index pouch tabs with each specification section's submission chronologically.

1.4 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion and before submitting a 95% complete application for payment, complete the following. List exceptions in the request.
 - 1. Project Observation Reports: Contractor will maintain a 3-ring binder of Owners Representative reports at the site. Contractor will correct individual non-complying items in report plus all reported or unreported instances of similar items throughout the job site within 30 days of report issuance. Contractor will document correction of each item by initialing approval, dating, and sending

Owners Representative copy of initialed items. Continued failure to correct non-complying items will result in increased retainage. Final review for Substantial Completion cannot be scheduled until all reported items are in compliance.

2. Contractor's Final Review: Contractor shall fully inspect the work with Contractor's project manager, superintendent and subcontractors' managers to verify that the work is ready for Project Manager's final review.
3. It is the Contractor's responsibility to manage proper structural and technical installation of all exposed finishes. The Contractor must also assure the quality of the workmanship of all finishes.

Do not wait for or attempt to use Engineer's final review to identify unacceptable quality workmanship. Attempts to substitute Engineer's final review in lieu of Contractor quality assurance will subject Contractor to possible increased retainage, back-charging of corrective work by others to Contractor, Owner delay claims, and termination.

4. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the work claimed as substantially complete. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
 - a. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the work is not complete.
5. Advise Owner in writing of pending insurance change-over requirements.
6. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents.
7. Obtain and submit releases enabling the Owner unrestricted use of the Work, and similar releases.
8. Submit record drawings, maintenance manuals, final project photographs, damage or settlement survey, and similar final record information.
9. Discontinue or change over and remove temporary facilities from the site, along with construction tools, mock-ups, and similar elements.
10. Complete final clean up requirements. Touch-up and otherwise repair and restore marred exposed finishes.

- B. Final Review Procedures: The Project Manager will perform one continuous final review when the contractors have completed all the work, their own review, and have requested a final review. On receipt of a request for inspection, the Project Manager will either proceed with inspection or advise the Contractor of unfilled requirements. The Project Manager will prepare the Certificate of Substantial Completion following inspection, or advise the Contractor of construction that must be completed or corrected before the certificate will be issued. Results of the final review will form the punch list.

1. Incomplete work by the Contractor or work that is not of quality in the opinion of the Project Manager will delay the final review until that work is completed or corrected throughout. The Project Manager performing routine field reviews will be the sole judge of readiness for the final review. Routine field reviews by the Project Manager and/or a final review of a pre-arranged sample building area will identify incomplete or non-complying items, all of which must be corrected throughout entire contract area prior to requesting a final review.
2. The final review will be a single continuous effort. Contractor shall have all finishes complete. Contractor shall provide ladders, scaffolds, keys, drop cord lights, swing stages, or other equipment and manpower necessary to complete the final review in a timely manner. Contractor project manager and superintendent will accompany the Project Manager at all times during the final review. Contractor will bring bound field reports, specifications, addenda, construction change directives, change orders, and record prints along on final review. Contractor will temporarily label non-complying finish areas on all surfaces for correction and remove location marks after each item is approved at punch list review.
3. Correct or complete all non-complying items.
4. Submit copies of the Project Manager's final punch list of itemized work to be completed or corrected. Contractor's project manager or superintendent must inspect, approve, and initial completion or correction of each punch list item.
5. Punch List Review: The review of the punch list will also be a single continuous effort. Attempted reviews canceled due to incomplete compliance with the contract requirements will be provided as an additional review at a back-charged cost to the Contractor of \$100.00 per hour for each review team member involved. Should three items be incomplete or unsatisfactory, the review will be terminated. The Contractor will be back-charged for all further review efforts without the processing and approvals required for a change order.

1.5 FINAL ACCEPTANCE

- A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.
 1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 2. Submit an updated final statement accounting for final additional changes to the Contract Sum.
 3. Submit consent of surety to final payment.
 4. Submit a final liquidated damages settlement statement.
 5. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

6. Submit record Project Manual with all addenda and change order items neatly posted and identified on or adjacent to each page.
7. Submit record drawings, final project photographs, damage or settlement survey, and similar final record information.
8. Deliver tools, spare parts, extra stock, and similar items.
9. Submit lien waivers (AIA form G706 and G706A) in 16 Division format.

1.6 RECORD DOCUMENT SUBMITTALS

- A. General: Do not use record documents for construction purposes--protect from deterioration and loss in a secure, fire-resistive location; and, provide access to record documents for the Architect's reference during normal working hours.
- B. Record Drawings: Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the work as originally shown. Mark whichever drawing is most capable of showing conditions fully and accurately; and, where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
 1. Mark record sets with red erasable pencil and use other colors to distinguish between variations in separate categories of the work.
 2. Mark new information that is important to the Owner, but was not shown on Contract Drawings or Shop Drawings.
 3. Note related Change Order numbers where applicable.
 4. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates, and other identification on the cover of each set.
- C. Record Specifications: Maintain one complete copy of the Project Manual, including addenda and one copy of other written construction documents such as Change Orders and modifications issued in printed form during construction. Mark these documents to show substantial variations in actual work performed in comparison with the text of the Specifications and modifications. Give particular attention to substitutions, selection of options, and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and Product Data.
 1. Upon completion of the work, submit record Specifications to the Project Manager for the Owner's records.
- D. Record Product Data: Maintain one copy of each Product Data submittal. Mark these documents to show significant variations in actual work performed in comparison with information submitted. Include variations in products delivered to the site and from the manufacturer's installation instructions and recommendations. Give particular attention to concealed products and portions of the work that cannot

otherwise be readily discerned later by direct observation. Note related Change Orders and mark-up of record drawings and Specifications.

1. Upon completion of mark-up, submit complete set of record Product Data to the Project Manager for the Owner's records.
- E. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order, properly identified, and bound or filed, ready for continued use and reference. Submit to the Project Manager for the Owner's records.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: General cleaning during construction is required by the General Conditions and included in Section "Temporary Facilities".
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal cleaning and maintenance program. Comply with manufacturer's instructions.
 1. Remove labels that are not permanent labels.
 2. Clean exposed exterior hard-surfaced finishes to a dust-free condition, free of stains, films, and similar foreign substances. Restore reflective surfaces to their original reflective condition.
 3. Clean the site, including landscape development areas, of rubbish, litter, and other foreign substances. Sweep paved areas broom clean; remove stains, spills, and other foreign deposits. Rake grounds that are neither paved nor planted to a smooth even-textured surface.

PART 4 - CHECKLIST

- A. Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions 2 through 32; this checklist is for the convenience of the parties concerned and is not intended to be complete in all respects. It is the responsibility of each Contractor to ensure that all requirements of their contract are fulfilled prior to project closeout, including, but not limited to, submission of all items on this checklist.

END OF SECTION 017000

PROJECT CLOSEOUT CHECKLIST

Project: Wake County Dam #2 Hatcher's Grove Auxiliary Spillway Repair

<u>TASK DESCRIPTION</u>	<u>Completed</u>	<u>Date</u>
A. General Requirements		
1. Certification of Substantial Completion executed by Designer, Contractor, and Owner (AIA Form G704)	_____	_____
2. Close-out Submittals		
a. Certification of Compliance by Building Inspection Officials	_____(N/A)_____	_____
b. Copy of Building Official Inspection Card showing required inspection approvals	_____(N/A)_____	_____
c. Certificates of Inspection		
(1) General Contract	_____	_____
(2) Mechanical Contract (Include testing and balance reports)	_____(N/A)_____	_____
(3) Electrical Contract	_____(N/A)_____	_____
(4) Plumbing Contract	_____(N/A)_____	_____
(5) Fire Protection Contract	_____(N/A)_____	_____
(6) Others as required (NCDFS, NCDOT, NC Land Quality, Local Government, Utilities, Health Dept., Fire-proofing Certification, Structural Steel Inspection, Certification, etc.)	_____(N/A)_____	_____
d. Owner Instruction and Training with Equipment and Systems (Memo required)	_____(N/A)_____	_____

e.	Utility Connections and Transfer of Billings to Owner's Account (Memo required)	<u>(N/A)</u>	<u></u>
f.	Transfer of Owner required attic stock material (Typed Inventory Required)	<u>(N/A)</u>	<u></u>
g.	Transfer of organized key cabinet and miscellaneous keys to Owner (keys to electrical cabinets, security panels, fire alarm panels, and toilet accessories)	<u>(N/A)</u>	<u></u>
h.	Insurance coverage change over	<u></u>	<u></u>
B.	Record Document Requirements		
1.	As-built drawings (CD and hard copy on bond paper)	<u></u>	<u></u>
a.	General	<u></u>	<u></u>
b.	Electrical	<u>(N/A)</u>	<u></u>
c.	Mechanical	<u>(N/A)</u>	<u></u>
d.	Utility	<u>(N/A)</u>	<u></u>
d.	Plumbing	<u>(N/A)</u>	<u></u>
2.	Specifications and Addenda		
a.	Product and Operational Manuals	<u>(N/A)</u>	<u></u>
b.	Warranties and Bonds, Guarantees, Maintenance Agreements	<u></u>	<u></u>
3.	Change Orders, Back Charges, Field Directives	<u></u>	<u></u>
4.	Complete set of Shop Drawings with Designer's Review Stamp	<u></u>	<u></u>
5.	Field Test Reports	<u></u>	<u></u>

Wake County Dam #2
Hatcher's Grove Auxiliary Spillway Repair

- | | | | |
|--------------------------------------|--|-------|-------|
| 6. | Construction Reports (site visit reports,
Contractor's Job Log, photographs) | _____ | _____ |
| 7. | Certification by Project Manager of
Completed Final Punch list | _____ | _____ |
|
C. Final Accounting Requirements | | | |
| 1. | Final Request for Payment Certified by
Designer | _____ | _____ |
| 2. | Contractor's Affidavit completion of Work | _____ | _____ |
| 3. | Final Release of Liens (AIA Form G706A) | _____ | _____ |
| 4. | Affidavit of Payment of Debts and Claims
(AIA Form G706) | _____ | _____ |
| 5. | Consent of Surety to Final Payment
(AIA Form G706A) | _____ | _____ |
| 6. | Final liquidated damages analysis by
Designer | _____ | _____ |
| 7. | Certified listing of N.C. and Wake County
Sales and Use Taxes paid | _____ | _____ |
| 8. | Certificate of Substantial Completion
(Fully executed) | _____ | _____ |
| 9. | Final Completion Certificate executed
by Designer | _____ | _____ |
| 10. | Certified listing of M/WBE firms used
(include exact subcontract amount) | _____ | _____ |
|
D. Warranty Period | | | |
| 1. | Pre-expiration warranty inspection (to be
made 30 days before warranty expiration date) | _____ | _____ |

Wake County FORM MBE-6 (2002)

CERTIFICATION of Actual Work Performed by Minority Businesses

NOTE: THIS FORM IS TO BE SUBMITTED PRIOR TO FINAL PAYMENT BEING DUE THE CONTRACT

Affidavit of _____
(Contractor Name)

(Project Name)

Project ID# _____ Final Contract Amount \$ _____

I do hereby certify that _____ % of the total dollar amount of the contract was performed with minority business. Such work was subcontracted to the firms listed below.

Attach additional sheets if required

Name and Phone Number	*Minority Category	Work description	Dollar Value

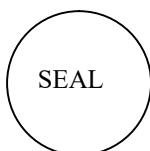
*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

The undersigned hereby certifies that above information is correct to the best of his/her knowledge, information and belief.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of North Carolina, County of _____

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

Notary Public _____

My commission expires _____

SECTION 017400 – WARRANTIES AND BONDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturer's standard warranties on products and special warranties.
 - 1. Refer to the General Conditions for terms of the Contractor's special warranty of workmanship and materials.
 - 2. General closeout requirements are included in Section "Project Closeout."
 - 3. Specific requirements for warranties for the Work and products and installations that are specified to be warranted are included in the individual Sections of Divisions-2 through -32.
 - 4. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.
- B. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

1.3 DEFINITIONS

- A. Standard Product Warranties are pre-printed written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.
- B. Special Warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.

1.4 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.
- B. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding; reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

- C. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.
- D. Owner's Recourse: Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.
 - 1. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.
- E. The Owner reserves the right to refuse to accept Work for the Project where a special warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

1.5 SUBMITTALS

- A. Submit written warranties to the Owner's Representative at 80% billing. If the Designer's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Owner's Representative.
 - 1. When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Owner's Representative within fifteen days of completion of that designated portion of the Work.
- B. When a special warranty is required to be executed by the Contractor, or the Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner through the Owner's Representative for approval prior to final execution.
 - 1. Refer to individual Sections of Divisions-2 through -16 for specific content requirements, and particular requirements for submittal of special warranties.
- C. Form of Submittal: At Final Completion compile two copies of each required warranty and bond properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.
- D. Bind warranties and bonds in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2" by 11" paper.

1. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address and telephone number of the installer.
2. Identify each binder on the front and the spine with the typed or printed title "WARRANTIES AND BONDS, the Project title or name, and the name of the Contractor.
3. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

END OF SECTION 017400

SECTION 022300 - SITE CLEARING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Protecting existing grass to remain.
 - 2. Stripping and stockpiling topsoil.
 - 3. Temporary erosion and sedimentation control measures.
- B. Related Sections include the following:
 - 1. Division 1 Section "Temporary Facilities and Controls" for temporary utilities, temporary construction and support facilities, temporary security and protection facilities, and temporary erosion and sedimentation control procedures.
 - 2. Division 2 Section "Dewatering" for lowering existing lake level.
 - 3. Division 2 Section "Lawns and Grasses" for finish grading including preparing and placing planting soil mixes and testing of topsoil material.

1.3 DEFINITIONS

- A. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches in diameter; and free of subsoil and weeds, roots, toxic materials, or other nonsoil materials.
- B. Temporary Silt Fence: A temporary sediment device consisting of geotextile fabric installed between supporting posts. The silt fence intercepts water flow from the site, decreases velocity, and causes suspended particles to settle.

1.4 MATERIAL OWNERSHIP

- A. Except for stripped topsoil or other materials indicated to remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.5 SUBMITTALS

- A. Photographs or videotape, sufficiently detailed, of existing conditions of trees and plantings, adjoining construction, and site improvements that might be misconstrued as damage caused by site clearing.

1.6 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
- B. Do not commence site clearing operations until temporary erosion and sedimentation control measures are in place.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. Satisfactory Soil Materials: Requirements for satisfactory soil materials are specified in Division 2 Section "Earthwork."
 - 1. Obtain approved borrow soil materials off-site when satisfactory soil materials are not available on-site.

2.2 TEMPORARY SILT FENCE

- A. The material shall meet the following specifications:
 - 1. Metal posts to be 5 ft. in height (3 ft. above ground) and spaced maximum 8 ft. apart with wire or 6 ft. apart without wire.
 - 2. Bury fabric a minimum of 8 in. deep and 4 in. along the base of the trench. An 18 in. overlap is required when splicing.
 - 3. Use wire a minimum of 32 in. in width and with a minimum of 6-line wires with 12 in. spacing
 - 4. Use filtration geotextile a minimum of 36 in. in width and fasten adequately to the wire as directed
 - 5. Provide 5 ft. steel post of the self-fastener angle steel type
 - 6. For mechanical slicing method installation, geotextile shall be a maximum of 18 in. above ground surface.
 - 7. Top and bottom strand wires shall be 10 gauge minimum

8. Middle and vertical wires shall be 12-1/2 gauge minimum

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Protect existing site improvements to remain from damage during construction.
 1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and waters, according to requirements of authorities having jurisdiction.
- B. Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- C. Inspect silt fence on a regular basis and after each rainfall. Make any repairs immediately.
- D. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 TREE PROTECTION

- A. Erect and maintain temporary fencing around tree protection zones before starting site clearing. Remove fence when construction is complete.
 1. Do not store construction materials, debris, or excavated material within fenced area.
 2. Do not permit vehicles, equipment, or foot traffic within fenced area.
 3. Maintain fenced area free of trash.
- B. Do not excavate within tree protection zones, unless otherwise indicated.
- C. Repair or replace trees and vegetation indicated to remain that are damaged by construction operations, in a manner approved by Engineer.

- D. Strip topsoil to whatever depths is encountered in a manner to prevent intermingling with underlying subsoil or other waste materials.
 - 1. Remove subsoil and non-soil materials from topsoil, including trash, debris, weeds, roots, and other waste materials.
- E. Stockpile topsoil materials away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. Limit height of topsoil stockpiles to 72 inches.
 - 2. Do not stockpile topsoil within tree protection zones.
 - 3. Dispose of excess topsoil as specified for waste material disposal.
 - 4. Stockpile surplus topsoil to allow for re-spreading deeper topsoil.

3.4 DISPOSAL

- A. Disposal: Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 022300

SECTION 022400 - DEWATERING

1.1 SUMMARY

- A. Construction dewatering.

1.2 PERFORMANCE REQUIREMENTS

- A. Contractor to design, furnish, install, test, operate, monitor, and maintain dewatering system.

1.3 PROJECT CONDITIONS

- A. Contractor shall protect the work in the event of inclement weather. Repair of damaged work due to inclement weather shall be the Contractor's responsibility and will not be at the Owner's expense.
- B. Contractor shall protect the exposed subgrade of the slope and spillway floor from groundwater seepage.

1.4 SUBMITTALS

- A. Protection from Groundwater Seepage: The Contractor shall provide a detailed plan for protection of the exposed subgrade from groundwater seepage prior to any excavation.
- B. Groundwater Seepage plan shall include, but is not limited to the following:
 - 1. Proposed method of protection.
 - 2. Methods of monitoring and reporting.
 - 3. Include written reports outlining procedures to be adopted if seepage of groundwater onto the exposed subgrade occurs.

END OF SECTION 022400

SECTION 029200 - LAWNS AND GRASSES

1.1 SUMMARY

- A. Seeded lawns.
- B. Mulching.
- C. Fertilizers.

1.2 DEFINITIONS

- A. Finish Grade: Elevation of finished surface of planting soil at erosion areas.
- B. Planting Soil: Native or imported topsoil, or stockpiled soil modified to become topsoil; mixed with soil amendments.
- C. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill immediately beneath planting soil.

1.3 MAINTENANCE SERVICE

- A. Lawns: 60 days after placement of seed & mulch.

1.4 MATERIALS

- A. Seed: Kentucky 31 Tall Fescue at rates shown on plans.
- B. Fertilizers: Superphosphate and commercial fertilizer at rates shown on plans.
- C. Mulches: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.
- D. Erosion-Control Materials: Biodegradable wood excelsior, straw, or coconut-fiber mat enclosed in a photodegradable plastic mesh, except as noted on the plans.
- E. Planting Soil Mix: Topsoil with inorganic soil amendments and fertilizers.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Seed: Deliver seed in original sealed, labeled, and undamaged containers. Store as per manufacturer recommendations.

1.6 EXAMINATION

- A. Examine areas to receive grass for compliance with requirements and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

1.7 PREPARATION

- A. Protect structures, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
- B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and waters.
- C. Smooth ruts by back grading and/or filling. Smooth disturbed areas in the auxiliary spillway to original grade.

1.8 INSTALLATION

- A. Planting Soil Mix Depth for Newly Graded Subgrades: 4 inches
- B. Seed: Hydroseeded.
- C. Existing but Disturbed Areas

1.9 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris created by lawn work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Smooth any disturbed area needed for staging and/or temporary access road in the auxiliary spillway to original grade, and reseed as per section 1.8.
- C. Erect barricades and warning signs as required protecting newly planted areas from traffic. Maintain barricades throughout maintenance period and remove after lawn is established.
- D. Remove erosion-control measures after grass establishment period.

END OF SECTION 029200

SECTION 312000-EARTH MOVING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Materials.
 - 2. Execution per NRCS 23 Specification.

1.2 DEFINITIONS

- A. Backfill: Soil material used to fill an excavation.
 - 1. Initial Backfill: Backfill placed in berm repair areas, beside and over pipe in a trench, including haunches to support sides of pipe.
 - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Bedding Course: Course placed over the excavated subgrade in a trench before laying rip rap.
- C. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill and has a Plasticity Index of less than 20. The borrowed soil shall have a maximum dry density of at least 90 pounds per cubic foot as determined by a Standard Proctor compaction test (ASTM D-698).
- D. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
 - 1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Engineer. Authorized additional excavation and replacement material will be paid for according to Contract provisions changes in the Work.
 - 2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by the Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be without additional compensation.
- E. Fill: Soil materials used to raise existing grades.
- F. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
- G. Utilities: On-site underground pipes, conduits, ducts, and cables.

1.3 PROJECT CONDITIONS

- A. Emergency Spillway: The Emergency Spillway is located between the existing body of water and Morrisville Parkway.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Provide suitable slope repair material obtained from an approved barrow source. When sufficient satisfactory soil materials are not available from excavations, the Contractor shall provide barrow subject to Engineer's approval.
- B. **Satisfactory Soils:** ASTM D 2487 Unified Soil Classification Groups SC, SM, CL and ML free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
 - 1. Contractor may reuse excavated soil from slope for backfill, if soil meets material requirements as noted within the subsurface soils report prepared by Kleinfelder, dated May 9, 2017.
- C. **Unsatisfactory Soils:** Unified Soil Classification Groups GW, GP, GM, GM-GC, GC, SW, SP, SM-SC, OL, ML-CL, MH, OH, and CH according to ASTM D 2487.
 - 1. Unsatisfactory soils also include satisfactory soils not maintained within 3 percent above the optimum moisture content and within -1 percent below the optimum moisture content at time of compaction.
- D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.
- F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.
- H. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect embankment structures or utilities and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Preparation of subgrade for earthwork operations in the area of the upstream berm including removal of vegetation, topsoil, debris, obstructions, and deleterious materials from ground surface is specified in Division 31 Section "Site Clearing."
- C. Protect and maintain erosion and sedimentation controls, which are specified in Division 31 Section "Site Clearing." during earthwork operations.

3.2 EXCAVATION

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
 - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

3.3 SUBGRADE INSPECTION

- A. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Engineer, without additional compensation.
- B. Trench bottoms may be inspected by probing with a ½ inch diameter probe rod by Engineer to insure adequate bearing. A pocket penetrometer may also be used to get a direct reading of unconfined compressive strength (psf).

3.4 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavations with approved backfill material as approved by the Engineer.
 - 1. Fill unauthorized excavations under other construction or utility pipe as directed by Engineer.

3.5 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. .
 - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of trees.

3.6 PLACEMENT PER NRCS

- A. Earth fill shall not be placed until the required excavation and foundation preparation have been completed and the foundation has been inspected and approved by the Engineer. Earth fill shall not be placed upon a frozen surface nor shall snow, ice, or frozen material be incorporated in the earth fill matrix. Earth fill shall not be placed in standing water or on wet subgrade.
- B. Earth fill shall be placed in approximate horizontal layers in vertical lifts to a maximum loose thickness of 8 inches. The thickness of each layer before compaction shall not exceed the maximum thickness specified in section 3.11A or shown on the drawings. Materials placed by dumping in piles or windrows shall be spread uniformly to not more than the specified thickness before being compacted.
- C. Hand compacted earth backfill shall be placed in layers whose thickness before compaction does not exceed the maximum thickness specified for layers of earth backfill compacted by manually directed power tampers.
- D. Earth backfill shall be placed in a manner that prevents further damage to the slope and allows the slope to assume the loads from the earth backfill gradually and uniformly. The height of the vertical bench shall not exceed 24 inches..
- E. Earthfill and earth backfill in dams, levees, and other structures designed to restrain the movement of water shall be placed to meet the following additional requirements:
 - 1. The distribution of materials throughout each zone shall be essentially uniform, and the earthfill shall be free from lenses, pockets, streaks, or layers of material differing substantially in texture, moisture content, or gradation from the surrounding material. Zone earthfills shall be constructed concurrently unless otherwise specified.
 - 2. The surface of each layer shall be scarified parallel to the axis of the fill to a depth of not less than 2 inches before the next layer is placed.
 - 3. The top surface of embankments shall be maintained approximately level during construction with two exceptions: A crown or cross-slope of about 2 percent shall be maintained to ensure effective drainage, or as otherwise directed by the Engineer.
 - 4. Embankments built at different levels as described under (c) or (d) above shall be constructed so that the slope of the bonding surfaces between embankment in place and embankment to be placed is not steeper than 3 feet horizontal to 1 foot vertical. The bonding surface of the embankment in place shall be stripped of all material not meeting the requirements of this specification and shall be scarified, moistened, and recompacted when the new earthfill is placed against it. This ensures a good bond with the new earthfill and obtains the specified moisture content and density at the contact of the in place and new earthfills.

3.7 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 3 percent above the optimum moisture content and within - 1 percent below the optimum moisture content.
 - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
 - 2. Remove and replace, or scarify and air dry otherwise satisfactory soil material that exceeds optimum moisture content by 3 percent and or is below the optimum moisture content by more than 1 percent.

3.8 CONTROL OF MOISTURE CONTENT PER NRCS

During placement and compaction of earthfill and earth backfill, the moisture content of the material being placed shall be maintained within the specified range.

The application of water to the earthfill material shall be accomplished at the borrow areas insofar as practicable. Water may be applied by sprinkling the material after placement on the earthfill, if necessary. Uniform moisture distribution shall be obtained by disking.

If the top surface material that is too wet when deposited on the earthfill shall either be removed or be dried to the specified moisture content prior to compaction.

3.9 COMPACTION OF SOIL BACKFILLS

- A. Place backfill and fill soil materials in layers not more than 6 inches in loose depth for material compacted by hand-operated tampers.
- B. Backfill placed and compacted in confined spaces or adjacent to structures shall be by hand tamping, manually directed power tamping or vibrating plate compactor.
- C. Place backfill and fill soil materials evenly on all sides of pipes and uniformly along the full length of pipe structure.
- D. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698:
 - 1. Compact each layer of initial and final backfill soil material at least 95 percent.
- E. The passage of heavy equipment will not be allowed over the conduit until the backfill has been placed over the top surface to a height greater than 2 feet. Compaction of earth backfill adjacent to structures shall not be started until the following time intervals have been elapsed after placement of the concrete: Pre-cast, bedded = 1 day, and Cast-in-place (backfilled both sides simultaneously) = 3 days.

3.10 COMPACTION PER NRCS

Earthfill—Earthfill shall be compacted according to the following requirements:

- A. Compaction—Each layer of earthfill shall be compacted as necessary to provide the density of the earthfill matrix not less than the minimum density specified in section 3.9D. The earthfill matrix is defined as the portion of the earthfill material finer than the maximum particle size allowed in the reference compaction test method specified (ASTM D-698 or ASTM D-1557).
- B. Earth backfill—Earth backfill adjacent to structures shall be compacted to a density equivalent to that of the surrounding in place earth material or adjacent required earthfill or earth backfill. Compaction shall be accomplished by hand tamping or manually directed power tampers, plate vibrators, walk-behind, miniature, or self-propelled rollers. Unless otherwise specified heavy equipment including backhoe mounted power tampers or vibrating compactors and manually directed vibrating rollers shall not be operated within 3 feet of any structure. Towed or self-propelled vibrating rollers shall not be operated within 5 feet of any structure. Compaction by means of drop weights operating from a crane or hoist is not permitted.

3.11 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements of a maximum loose thickness of 8 inches and grade to cross sections, lines, and elevations indicated.
- B. Site Grading: Gently grade to direct water away from embankments and to prevent ponding.

3.12 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent geotechnical engineering testing agency to perform field quality-control testing.
- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.
- C. Testing agency will test field density and moisture content of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable at a minimum rate of 1 test per 2 feet of material placed.

Moisture contents of earthfill and earth backfill at the time of compaction shall be measured in accordance with ASTM D2216, D4643, or D6938. Values of moisture content determined by ASTM D2216 are considered the true value of the soil moisture. Values of moisture content determined by ASTM D4643 or D6938 shall be verified by comparison to values obtained by ASTM D2216.

Values of in-place density and moisture content determined by these tests shall be compared to the minimum density and moisture content range specified in sections 3.9 and 3.11.

- D. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.

3.13 REWORKING OR REMOVAL AND REPLACEMENT PER NRCS

- A. Earthfill placed at densities lower than the specified minimum density or at moisture contents outside the specified acceptable range of moisture content or otherwise not conforming to the requirements of the specifications shall be reworked to meet the requirements or removed and replaced by acceptable earthfill. The replacement earthfill and the foundation, abutment, and earthfill surfaces upon which it is placed shall conform to all requirements of this specification for foundation preparation, approval, placement, moisture control, and compaction.

3.14 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from water, traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.15 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.

END OF SECTION 312000



May 9, 2017

Mr. Rick Stogner, PE, CEM, BEP
Director
Wake County Facility & Field Services
Post Office Box 550
Raleigh, North Carolina 27602

**Subject: Report of Subsurface Exploration
 Hatcher's Grove Spillway
 Morrisville Parkway
 Cary, North Carolina**

Dear Mr. Stogner:

This report presents the results of a subsurface exploration performed for a portion of the southeast wall of the emergency spillway. This work was authorized by Mr. Rick Stogner via signature of Kleinfelder's Proposal No. RAL17P56049. The purpose of Kleinfelder's services was to evaluate the general subsurface and geologic conditions at the site with respect to observed distress in the spillway wall and recommend repairs and preventative measures to preclude future occurrences.

PROJECT INFORMATION

The area of concern consists of the southeast wall of the emergency spillway as shown on the attached Site Vicinity Map, Figure 1. Distress was noticed in the area in November of 2016. Characteristics of the distress included a scarp just below and parallel to the slope crest, and a bulge at the bottom of the slope. It is Kleinfelder's understanding that the height and width of the scarp has increased since first noticed.

The age of the reservoir and spillway is unknown, but has existed for at least 30 years based on online aerial images. A sanitary sewer line was installed above the crest of the spillway in the area of concern in the early 1990s per the May 5, 1991, as-built drawings provided to Kleinfelder by Alpha & Omega Group. The invert elevation of the 30-inch diameter ductile iron pipe is approximately 20 feet below grade, between elevations 316.0 and 318.0 feet MSL. According to online aerial images, the adjacent townhouse development was constructed in the mid to late 1990s.

INVESTIGATIVE PROCEDURES

Field Testing

Kleinfelder's field testing services included a site reconnaissance, soil test borings, and groundwater measurements. The purpose of the site reconnaissance was to observe the visible site conditions relative to the distress. The purpose of Kleinfelder's soil test borings was to assess the character of the subsurface soils within areas of distress and just beyond the distressed area.

A total of three soil test borings (B-1 through B-3) were performed at about the midpoint of the slope face at the approximate locations shown on the attached Boring Location Map. The boring locations were determined by Kleinfelder and established in the field by measuring from existing site features. The borings were advanced to depths of from 18.5 to 19.0 feet below the ground surface using continuous-flight, hollow-stem augers. Standard Penetration Tests were performed continuously to a depth of 10.5 feet and at 5 foot intervals thereafter to the depths explored in general accordance with ASTM D 1586. Standard Penetration Test data (SPT N-values) were used to estimate the in situ soil strength and density. Soil samples were obtained at each test interval.

Temporary piezometers were installed in each borehole for groundwater monitoring. Groundwater measurements were attempted at the termination of testing and again 6 to 12 days later. The groundwater measurements were delayed due to heavy rain two days after drilling completion. The piezometers were removed and the boreholes were backfilled with a combination of the auger cuttings and bentonite pellets.

A Kleinfelder engineer logged the borings during drilling by visually classifying the soils encountered according to the Unified Soil Classification System (USCS). The boring logs with terms and symbols used on the logs are attached.

Laboratory Testing

Selected soil samples were subjected to routine index testing to establish their engineering characteristics. The index testing consisted of natural water content determinations, Atterberg Limits tests, and percent fines determinations. The laboratory tests were performed in accordance with ASTM D 2216, D 4318, and D 1140, respectively. The results of the laboratory testing are summarized on the boring logs, and the attached laboratory test reports.

FINDINGS

Site Observations

The spillway floor and dam is located north and west of the distressed area. A townhome development is located south and east of the distressed area, along with a paved greenway. The spillway wall consists of an approximate 2(H):1(V) slope oriented from north to south and is approximately 8 feet in height from toe to crest. Ground cover consists of thick grass. An approximate 10 feet wide relatively flat area is present above the slope, which coincides with the location of the sanitary sewer line. The ground surface east of the sanitary sewer line slopes up to the townhomes at an inclination of approximately 3(H):1(V). A storm drain outlet consisting of two 4-inch diameter PVC pipes, is located at the crest of the upper slope above the distress. A 12-inch diameter ductile iron pipe culvert is present below the greenway, which appears to be directing stormwater along the sanitary sewer easement in the direction of the distressed slope. Photographs of the site observations are attached.

Site Geology

According to the 1985 Geologic Map of North Carolina, the site is located within the Triassic Basins region of the Piedmont Physiographic Province. Bedrock at the site is within a sedimentary unit known as the Chatham Group (TRC). These non-marine sedimentary rock units are predominantly comprised of sandstone, siltstone, mudstone and conglomerates. The mapped geology at this site consists primarily of Arkosic Sandstone, described as tan, medium to coarse grained, and micaceous. The on-site residual soils are the product of the in-place weathering of the parent bedrock.

The stratigraphy of the Triassic basin rocks is such that layers of siltstone and mudstone are generally steeply dipped from the west down to the east. As such, the resulting fine grained residual soils that have been weathered from such rock formations may possess naturally occurring slip planes within the weathered materials. Furthermore, groundwater tends to follow these planes traveling along the less permeable soil and rock layers. Cut slopes oriented in the north-south direction have a history of instability within the region, especially when groundwater is present.

Subsurface Findings

The subsurface conditions at the site, as indicated by the borings, generally consist of fine grained silt and clay underlain by sand that transitions to weathered rock, consistent with the regionally mapped geology. The generalized subsurface conditions are described below. For soil descriptions and general stratification at a particular boring location, the respective boring log should be reviewed.

Topsoil/sod was present at each borings, ranging in thickness from 1.5 to 3.0 inches. Displaced soil is present below the topsoil/sod in borings B-2 and B-3. Displaced soil is defined as residual soils that have shifted as a result of ground movement. The displaced soil in Kleinfelder's borings generally consisted of moist sandy silt. SPT N-values recorded in the displaced soil ranged from 4 to 5 bpf.

Residual soils are present below the displaced soil in borings B-2 and B-3, and below the topsoil/sod in boring B-1. Residual soils are formed by the in-place chemical and mechanical weathering of the parent bedrock. The residual soils in Kleinfelder's borings generally consisted of moist sandy silt, sandy clay, and clayey sand. SPT N-values recorded in the residuum ranged from 14 to 66 bpf, and generally increased with depth.

Weathered rock was encountered below the residual soils at depths ranging from 6.5 to 14.0 feet below the ground surface. An intermediate layer of residual soil was present within the weathered rock in boring B-2. Weathered rock represents the transition between residual soil and bedrock, and is defined as any residual material that exhibits a Standard Penetration Resistance in excess of 100 bpf, but less than 50 blows per 2 inches. The weathered rock represents the transition between residual soil and bedrock. The weathered rock generally sampled as fine grained clayey sand.

Groundwater was not observed during drilling or immediately after drilling completion. However, groundwater was observed in the borings 6 to 12 days later. Groundwater measurements ranged from 1.0 to 4.5 feet below the ground surface. Heavy rain occurred approximately 2 days after drilling completion. It is probable that stormwater runoff entered the boreholes from the surface, which is likely the cause of the higher recorded groundwater levels. Kleinfelder estimates that the stabilized groundwater level at the boring locations ranges from 4.0 to 4.5 feet below the ground surface. Some fluctuation in groundwater levels can occur with climatic and seasonal variations, with the highest groundwater levels generally expected between March and May. Seasonal low groundwater levels are generally expected between September and November. Therefore, subsurface water conditions at other times may be different from those described in this report.

CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations provided in this report are based on the properties of the materials encountered in the borings, the results of the laboratory-testing program, and Kleinfelder's engineering analyses performed. Kleinfelder's recommendations regarding the geotechnical aspects of the design and construction of the project are presented in the following sections. If the design

grades are substantially different than what was assumed in Kleinfelder's analyses or the proposed improvements configuration changes, its recommendations may have to be modified accordingly.

Based on the results of the field observations and borings, the distress in the slope is consistent with a shallow slide failure. Slide failures occur when the driving forces are greater than the resisting forces. This can occur when:

- The slope geometry changes (cut at the slope toe);
- Fill is added above the slope crest;
- The groundwater level increases;
- An additional source of water saturates the slope; or
- A combination of two or more of the above.

The slide failure occurrence appears consistent with a combination of the groundwater level and additional water from the stormwater outlet above the distressed area, causing the fine grained soils to become wet and unstable. Furthermore, naturally occurring slip planes commonly encountered in the Triassic Basin geology may be present.

The SPT N-values recorded to depths of 2.5 to 4.5 feet within the failure zone were approximately two-thirds less than the SPT N-values recorded in the adjacent undisturbed residual soils to these depths. The maximum depth of the displaced soil, concurrent with the stabilized groundwater level, appears to be approximately 4.5 feet below the ground surface at the approximate center of the distress. The probable failure plane, observed from midway up the slope face, ranges from 2.5 feet below the ground surface on the north side of the distress to 4.5 feet below the ground surface on the south side of the distress.

Kleinfelder recommends a stormwater management program be implemented in order to direct runoff from the adjacent development away the slope face. This can be accomplished with a berm along the top or a swale along the bottom of the upper slope.

Thereafter, the slope should be reconstructed with compacted structural fill in conjunction with the installation of subsurface drainage features to prevent groundwater intrusion into the reconstructed slope. The excavation should extend at least 5 feet into the dense undisturbed residual soils in each direction. The slope face should be seeded with proper vegetation immediately after fill placement. Permeant slope protection should be in accordance with the controlling regulatory requirements for spillway walls.

Temporary slopes at the rear of the excavation are expected to perform satisfactorily at inclinations of up to 1(H):1(V) when established within the dense undisturbed residual soils. Kleinfelder recommends the new fill should be benched into the existing materials. The purpose of the benching is to provide a proper tie in to the existing materials and preclude the formation of a weak plane. The horizontal bench width should be proportional to the size of the compaction equipment. The vertical bench height should not exceed 2 feet.

French drains should be installed in conjunction with slope reconstruction. Kleinfelder recommends installing the drains perpendicular to the slope face to a distance of at least 2 feet past the failure plane and into the firm residual soils. Drains should be spaced every 20 feet and should daylight at the toe of the slope. Additional subsurface drainage provisions may be required during construction to mitigate groundwater seepage onto the exposed subgrade.

Based on the results of Kleinfelder's laboratory testing and visual-manual classification, the onsite soils appear suitable for reuse as structural fill. The fine grained displaced soils exhibit high moisture contents, and will likely require drying, once excavated, to reduce the moisture content to a level compatible with proper compaction and stability.

Alternatively, soil may be imported to the site. Imported soil should be a clean soil free of organic matter and debris with a Plasticity Index of less than 20. Preferable soil types, as defined by USCS, consist of SC, SM, ML and CL soils. The fill should exhibit a maximum dry density of at least 90 pounds per cubic foot as determined by a Standard Proctor compaction test (ASTM D 698).

Fill should be placed in horizontal lifts not exceeding 8 inches loose thickness and compacted to at least 95 percent of the Standard Proctor maximum dry density. Kleinfelder recommends that the soil moisture be adjusted as required in the field to maintain a compacted moisture content of ± 3 percent of the optimum moisture content. Kleinfelder recommends that field density and moisture content tests be performed on the fill as it is being placed, at a frequency on the order of 1 test per 2 feet of material placed.

To provide for proper compaction of the fill slope face, Kleinfelder recommends that the fill slope be overfilled to a distance from the finished slope face that will allow compaction equipment to operate freely within the zone of the finished slope, and then cut back to the finished grade to expose the compacted core. Should this method not be employed, the grading contractor should be required to submit detailed procedures for the method of placement and compaction of the soil within a horizontal distance equal to the compaction equipment-width from the slope face.

LIMITATIONS

This work was performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the same locality, under similar conditions and at the date the services are provided. Kleinfelder makes no other representation, guarantee, or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

The work performed was based on project information provided by Alpha & Omega Group. If Wake County does not retain Kleinfelder to review the project plans and specifications, including any revisions or modifications thereto, Kleinfelder assumes no responsibility for the suitability of its recommendations. In addition, if there are any changes in the field to the plans and specifications, Client must obtain written notification from Kleinfelder's engineer that such changes do not affect its recommendations. Failure to do so will vitiate Kleinfelder's recommendations.

CLOSURE

Kleinfelder appreciates the opportunity to provide services to you during this phase of the project. Should you have any questions or require additional information, please contact the undersigned.

Respectfully,

KLEINFELDER, INC.



Christopher D. Carroll, PE
Project Professional



Xavier C. Barrett, PE
Principal Professional

CDC/XCB/:cas
Attachments

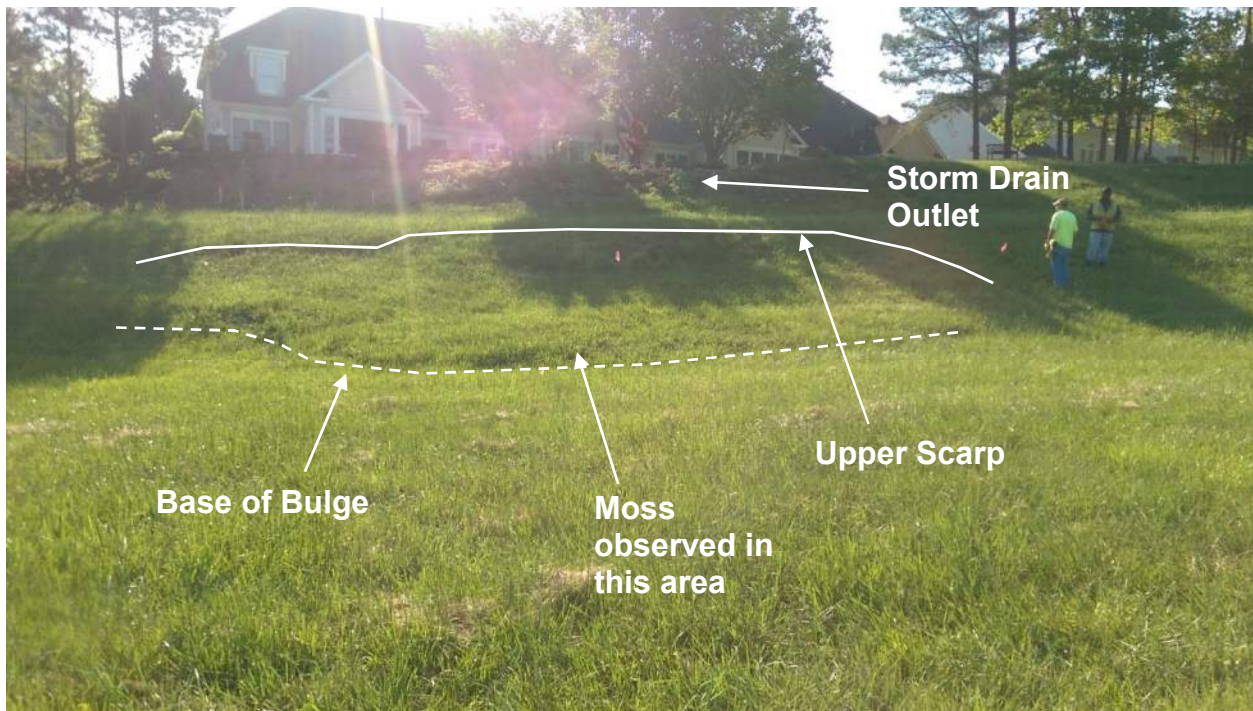


Photo 1: Overall view of slope failure.



Photo 2: Side view of slope failure.



Photo 1: Moss observed at base of bulge.



Photo 2: Upper scrap approximately 8 inches wide.

Site Photographs

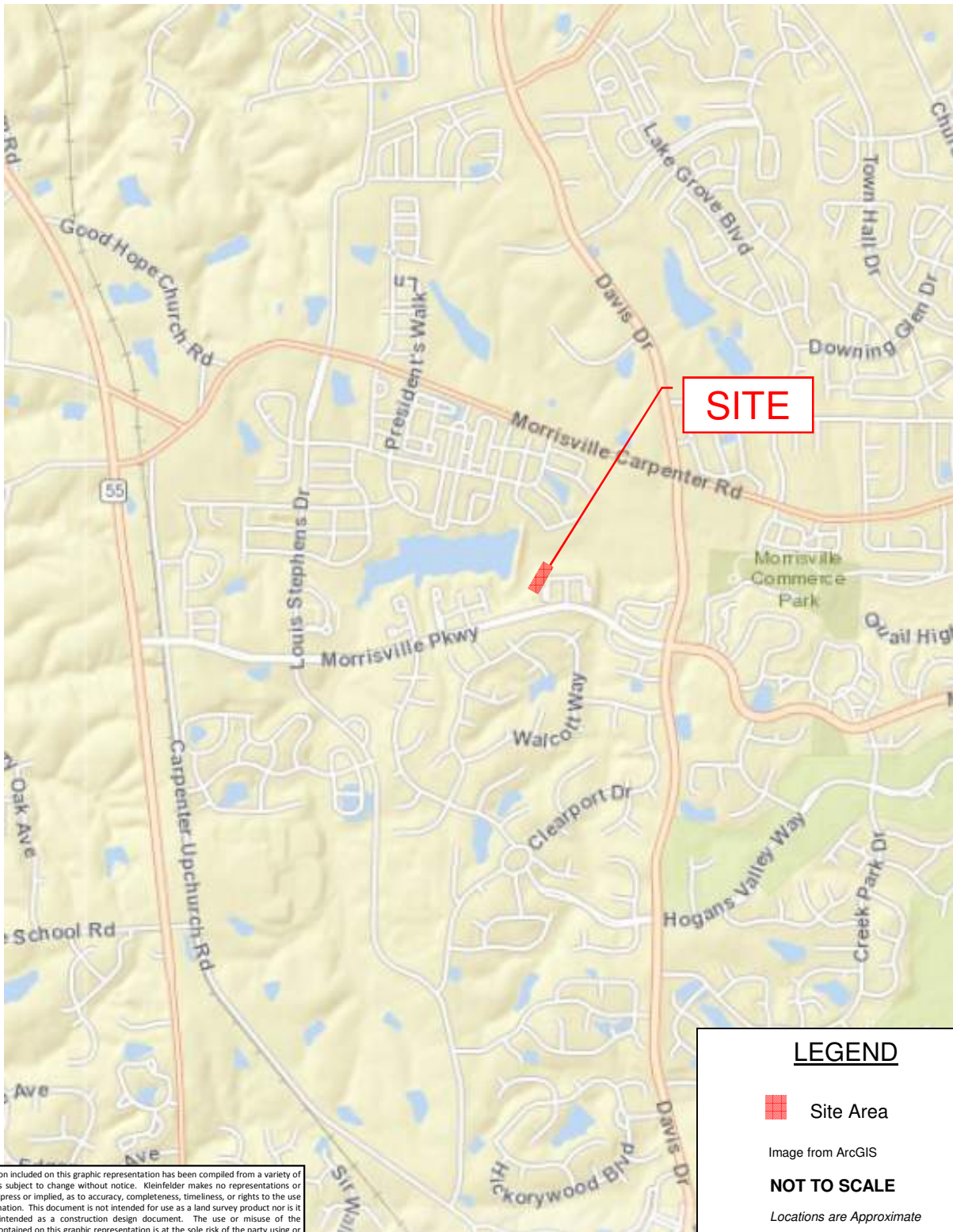
Hatcher's Grove Spillway
Morrisville Parkway, Cary, NC
Photos Taken: April 21, 2017



Photo 1: Storm drain outlet.



Photo 2: Sanitary sewer manhole #26. No apparent swale at crest of spillway slope.



The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.

LEGEND

 Site Area

Image from ArcGIS

NOT TO SCALE

Locations are Approximate



PROJECT NO. 20180098

DRAWN: 5/2/2017

DRAWN BY: C. Carroll

CHECKED BY: X. Barrett

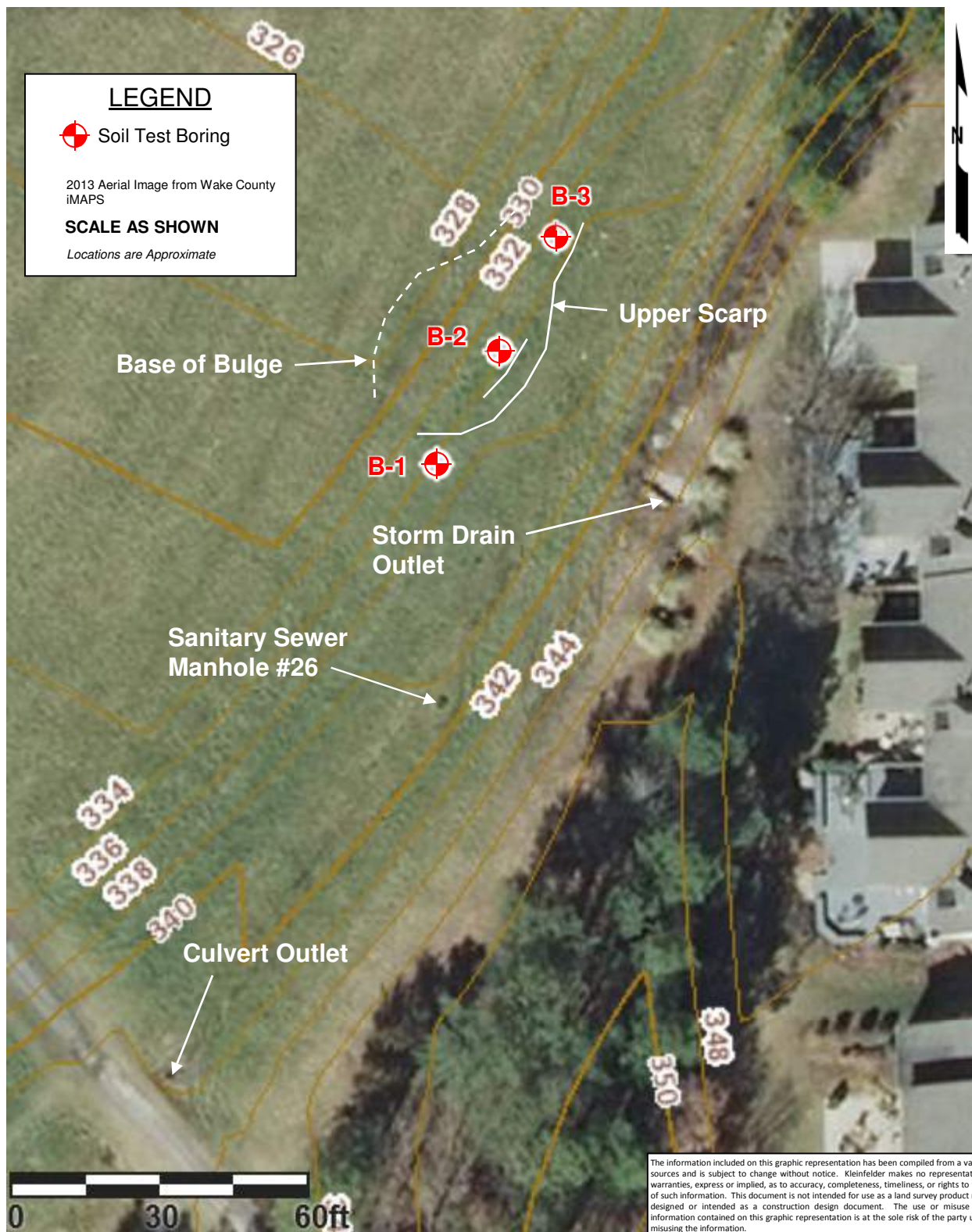
FILE:

SITE VICINITY MAP

Hatcher's Grove Spillway
Morrisville Parkway
Cary, North Carolina

FIGURE

1



PROJECT NO. 20180098

DRAWN: 5/2/2017

DRAWN BY: C. Carroll

CHECKED BY: X. Barrett

FILE:

BORING LOCATION MAP

Hatcher's Grove Spillway
Morrisville Parkway
Cary, North Carolina

FIGURE

2

SAMPLER AND DRILLING METHOD GRAPHICS

	BULK / GRAB / BAG SAMPLE
	MODIFIED CALIFORNIA SAMPLER (2 or 2-1/2 in. (50.8 or 63.5 mm.) outer diameter)
	CALIFORNIA SAMPLER (3 in. (76.2 mm.) outer diameter)
	STANDARD PENETRATION SPLIT SPOON SAMPLER (2 in. (50.8 mm.) outer diameter and 1-3/8 in. (34.9 mm.) inner diameter)
	SHELBY TUBE SAMPLER
	HOLLOW STEM AUGER
	SOLID STEM AUGER
	WASH BORING

GROUND WATER GRAPHICS

	WATER LEVEL (level where first observed)
	WATER LEVEL (level after exploration completion)
	WATER LEVEL (additional levels after exploration)
	OBSERVED SEEPAGE

NOTES

- The report and graphics key are an integral part of these logs. All data and interpretations in this log are subject to the explanations and limitations stated in the report.
- Lines separating strata on the logs represent approximate boundaries only. Actual transitions may be gradual or differ from those shown.
- No warranty is provided as to the continuity of soil or rock conditions between individual sample locations.
- Logs represent general soil or rock conditions observed at the point of exploration on the date indicated.
- In general, Unified Soil Classification System designations presented on the logs were based on visual classification in the field and were modified where appropriate based on gradation and index property testing.
- Fine grained soils that plot within the hatched area on the Plasticity Chart, and coarse grained soils with between 5% and 12% passing the No. 200 sieve require dual USCS symbols, i.e., GW-GM, GP-GM, GW-GC, GP-GC, GC-GM, SW-SM, SP-SM, SW-SC, SP-SC, SC-SM.
- If sampler is not able to be driven at least 6 inches then 50/X indicates number of blows required to drive the identified sampler X inches with a 140 pound hammer falling 30 inches.

ABBREVIATIONS

WOH - Weight of Hammer
WOR - Weight of Rod

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487)

GRAVELS (More than half of coarse fraction is larger than the #200 sieve)	CLEAN GRAVEL WITH <5% FINES	Cu ≥ 4 and 1 ≤ Cc ≤ 3		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
		Cu < 4 and/or 1 > Cc > 3		GP	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
	GRAVELS WITH 5% TO 12% FINES	Cu ≥ 4 and 1 ≤ Cc ≤ 3		GW-GM	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES
				GW-GC	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES
		Cu < 4 and/or 1 > Cc > 3		GP-GM	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES
				GP-GC	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES
	GRAVELS WITH > 12% FINES			GM	SILTY GRAVELS, GRAVEL-SILT-SAND MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
				GC-GM	CLAYEY GRAVELS, GRAVEL-SAND-CLAY-SILT MIXTURES
SANDS (More than half of coarse fraction is smaller than the #4 sieve)	CLEAN SANDS WITH <5% FINES	Cu ≥ 6 and 1 ≤ Cc ≤ 3		SW	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
		Cu < 6 and/or 1 > Cc > 3		SP	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
	SANDS WITH 5% TO 12% FINES	Cu ≥ 6 and 1 ≤ Cc ≤ 3		SW-SM	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
				SW-SC	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES
		Cu < 6 and/or 1 > Cc > 3		SP-SM	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
				SP-SC	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES
	SANDS WITH > 12% FINES			SM	SILTY SANDS, SAND-GRAVEL-SILT MIXTURES
				SC	CLAYEY SANDS, SAND-GRAVEL-CLAY MIXTURES
				SC-SM	CLAYEY SANDS, SAND-SILT-CLAY MIXTURES
FINE GRAINED SOILS (More than half of material is smaller than the #200 sieve)	SILTS AND CLAYS (Liquid Limit less than 50)			ML	INORGANIC SILTS AND VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				CL-ML	INORGANIC CLAYS-SILTS OF LOW PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
	SILTS AND CLAYS (Liquid Limit greater than 50)			OL	ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PLASTICITY
				MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILT
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
				OH	ORGANIC CLAYS & ORGANIC SILTS OF MEDIUM-TO-HIGH PLASTICITY



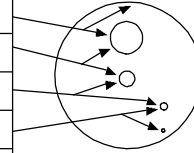
PROJECT NO.: 20180098
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CHECKED BY:
DATE:
REVISED: -

GRAPHICS KEY

Hatcher's Grove Spillway
Morrisville Parkway
Cary, North Carolina

GRAIN SIZE

DESCRIPTION	SIEVE SIZE	GRAIN SIZE	APPROXIMATE SIZE
Boulders	>12 in. (304.8 mm.)	>12 in. (304.8 mm.)	Larger than basketball-sized
Cobbles	3 - 12 in. (76.2 - 304.8 mm.)	3 - 12 in. (76.2 - 304.8 mm.)	Fist-sized to basketball-sized
Gravel	coarse 3/4 - 3 in. (19 - 76.2 mm.)	3/4 - 3 in. (19 - 76.2 mm.)	Thumb-sized to fist-sized
	fine #4 - 3/4 in. (#4 - 19 mm.)	0.19 - 0.75 in. (4.8 - 19 mm.)	Pea-sized to thumb-sized
Sand	coarse #10 - #4	0.075 - 0.19 in. (2 - 4.9 mm.)	Rock salt-sized to pea-sized
	medium #40 - #10	0.017 - 0.075 in. (0.43 - 2 mm.)	Sugar-sized to rock salt-sized
	fine #200 - #40	0.0029 - 0.017 in. (0.07 - 0.43 mm.)	Flour-sized to sugar-sized
Fines	Passing #200	<0.0029 in. (<0.07 mm.)	Flour-sized and smaller

**SECONDARY CONSTITUENT**

	AMOUNT	
Term of Use	Secondary Constituent is Fine Grained	Secondary Constituent is Coarse Grained
Trace	<5%	<15%
With	≥5 to <15%	≥15 to <30%
Modifier	≥15%	≥30%

MOISTURE CONTENT

DESCRIPTION	FIELD TEST
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

CEMENTATION

DESCRIPTION	FIELD TEST
Weakly	Crumbles or breaks with handling or slight finger pressure
Moderately	Crumbles or breaks with considerable finger pressure
Strongly	Will not crumble or break with finger pressure

CONSISTENCY - FINE-GRAINED SOIL

CONSISTENCY	SPT - N ₆₀ (# blows / ft)	Pocket Pen (tsf)	UNCONFINED COMPRESSIVE STRENGTH (Q _u)(psf)	VISUAL / MANUAL CRITERIA
Very Soft	<2	PP < 0.25	<500	Thumb will penetrate more than 1 inch (25 mm). Extrudes between fingers when squeezed.
Soft	2 - 4	0.25 ≤ PP < 0.5	500 - 1000	Thumb will penetrate soil about 1 inch (25 mm). Remolded by light finger pressure.
Medium Stiff	4 - 8	0.5 ≤ PP < 1	1000 - 2000	Thumb will penetrate soil about 1/4 inch (6 mm). Remolded by strong finger pressure.
Stiff	8 - 15	1 ≤ PP < 2	2000 - 4000	Can be imprinted with considerable pressure from thumb.
Very Stiff	15 - 30	2 ≤ PP < 4	4000 - 8000	Thumb will not indent soil but readily indented with thumbnail.
Hard	>30	4 ≤ PP	>8000	Thumbnail will not indent soil.

REACTION WITH HYDROCHLORIC ACID

DESCRIPTION	FIELD TEST
None	No visible reaction
Weak	Some reaction, with bubbles forming slowly
Strong	Violent reaction, with bubbles forming immediately

FROM TERZAGHI AND PECK, 1948; LAMBE AND WHITMAN, 1969; FHWA, 2002; AND ASTM D2488

APPARENT / RELATIVE DENSITY - COARSE-GRAINED SOIL

APPARENT DENSITY	SPT-N ₆₀ (# blows/ft)	MODIFIED CA SAMPLER (# blows/ft)	CALIFORNIA SAMPLER (# blows/ft)	RELATIVE DENSITY (%)
Very Loose	<4	<4	<5	0 - 15
Loose	4 - 10	5 - 12	5 - 15	15 - 35
Medium Dense	10 - 30	12 - 35	15 - 40	35 - 65
Dense	30 - 50	35 - 60	40 - 70	65 - 85
Very Dense	>50	>60	>70	85 - 100

FROM TERZAGHI AND PECK, 1948

STRUCTURE

DESCRIPTION	CRITERIA
Stratified	Alternating layers of varying material or color with layers at least 1/4-in. thick, note thickness.
Laminated	Alternating layers of varying material or color with the layer less than 1/4-in. thick, note thickness.
Fissured	Breaks along definite planes of fracture with little resistance to fracturing.
Slickensided	Fracture planes appear polished or glossy, sometimes striated.
Blocky	Cohesive soil that can be broken down into small angular lumps which resist further breakdown.
Lensed	Inclusion of small pockets of different soils, such as small lenses of sand scattered through a mass of clay; note thickness.

PLASTICITY

DESCRIPTION	LL	FIELD TEST
Non-plastic	NP	A 1/8-in. (3 mm.) thread cannot be rolled at any water content.
Low (L)	< 30	The thread can barely be rolled and the lump or thread cannot be formed when drier than the plastic limit.
Medium (M)	30 - 50	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump or thread crumbles when drier than the plastic limit.
High (H)	> 50	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump or thread can be formed without crumbling when drier than the plastic limit.

ANGULARITY

DESCRIPTION	CRITERIA
Angular	Particles have sharp edges and relatively plane sides with unpolished surfaces.
Subangular	Particles are similar to angular description but have rounded edges.
Subrounded	Particles have nearly plane sides but have well-rounded corners and edges.
Rounded	Particles have smoothly curved sides and no edges.



PROJECT NO.: 20180098

DRAWN BY:

CHECKED BY:

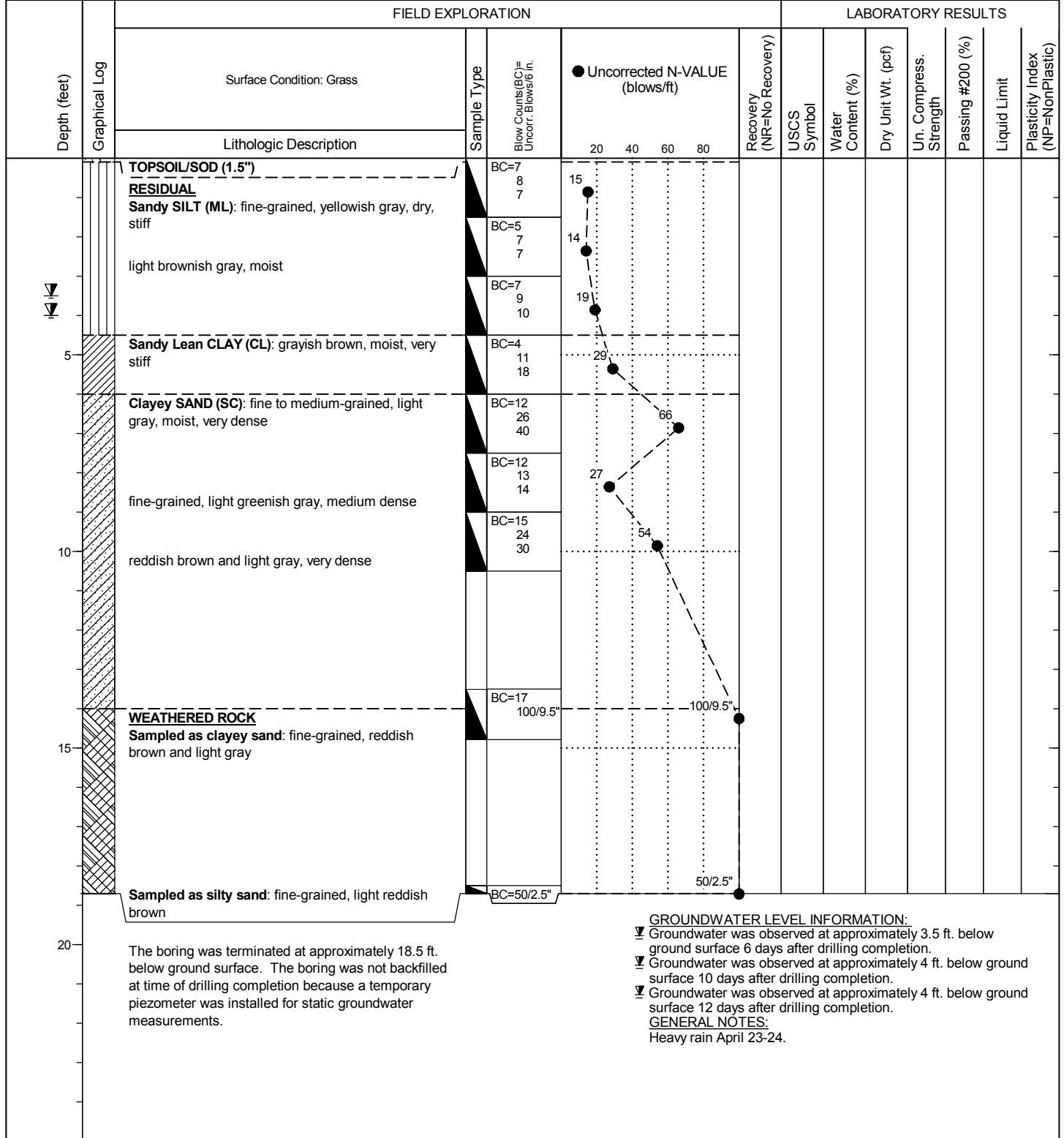
DATE:

REVISED:


SOIL DESCRIPTION KEYHatcher's Grove Spillway
Morrisville Parkway
Cary, North Carolina

PLOTTED: 05/04/2017 07:23 AM BY: CCarroll

Date Begin - End: 4/21/2017	Drilling Company: Trigon Exploration, LLC	BORING LOG B-1
Logged By: C. Carroll	Drill Crew: R. Toothman	
Hor.-Vert. Datum: Not Available	Drilling Equipment: CME-850	
Plunge: -90 degrees	Drilling Method: Hollow Stem Auger	
Weather: Sunny 70°	Auger Diameter: 2.25 in. I.D.	
		Hammer Type - Drop: 140 lb. Auto - 30 in.

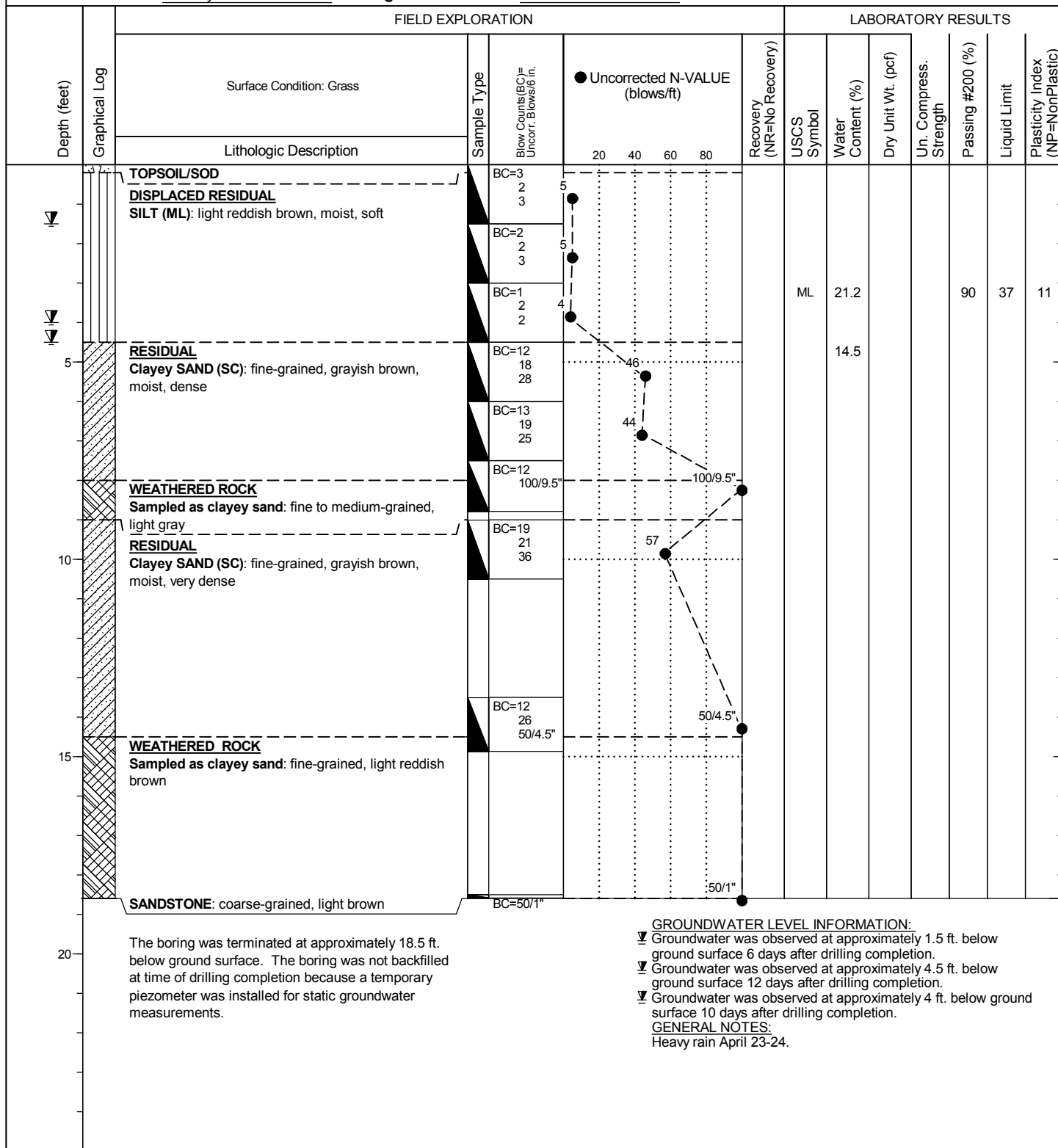


PROJECT NUMBER: 20180098
 GINT FILE: KLF_gint_master_2017
 GINT TEMPLATE: E:KLF_STANDARD_GINT_LIBRARY_2017.GLB [KLF_BORING WITH N-PLOT]

	PROJECT NO.: 20180098	BORING LOG B-1
	DRAWN BY: CDC	
	CHECKED BY: XCB	Hatcher's Grove Spillway Morrisville Parkway Cary, North Carolina
	DATE:	
	REVISED: -	

PLOTTED: 05/04/2017 07:24 AM BY: CCarroll

Date Begin - End: 4/21/2017	Drilling Company: Trigon Exploration, LLC	BORING LOG B-2
Logged By: C. Carroll	Drill Crew: R. Toothman	
Hor.-Vert. Datum: Not Available	Drilling Equipment: CME-850	
Plunge: -90 degrees	Drilling Method: Hollow Stem Auger	
Weather: Sunny 75°	Auger Diameter: 2.25 in. I.D.	
		Hammer Type - Drop: 140 lb. Auto - 30 in.



The boring was terminated at approximately 18.5 ft. below ground surface. The boring was not backfilled at time of drilling completion because a temporary piezometer was installed for static groundwater measurements.

GROUNDWATER LEVEL INFORMATION:
 ▽ Groundwater was observed at approximately 1.5 ft. below ground surface 6 days after drilling completion.
 ▽ Groundwater was observed at approximately 4.5 ft. below ground surface 12 days after drilling completion.
 ▽ Groundwater was observed at approximately 4 ft. below ground surface 10 days after drilling completion.
GENERAL NOTES:
 Heavy rain April 23-24.

PROJECT NUMBER: 20180098
 GINT FILE: KLF_gint_master_2017
 GINT TEMPLATE: E:KLF_STANDARD_GINT_LIBRARY_2017.GLB [KLF_BORING WITH N-PLOT]



PROJECT NO.: 20180098
 DRAWN BY: CDC
 CHECKED BY: XCB
 DATE:
 REVISED: -

BORING LOG B-2

Hatcher's Grove Spillway
 Morrisville Parkway
 Cary, North Carolina



KLEINFELDER
Bright People. Right Solutions.