



Raleigh

MEMO

INVITATION TO BID

274-GRSCurbandPavementMarkings-2024

Project: GoRaleigh Station Curb and Pavement Marking Repair

Location: Raleigh, NC

Department/Division: Transportation/Transit

Project Manager: Sara Tromba; sara.tromba@raleighnc.gov

Bids will be received until **4:00 pm on January 14, 2025** by City of Raleigh.

The work consists of replacing curb, gutter, and a sidewalk. It will also require both painted and Thermoplastic pavement markings. Please see the attached spec sheets and scope provided for this project.

Bidding Documents include this Invitation To Bid, and the following attached forms: Form of Proposal sample contract, Sales Tax Report, DBE form, and General Conditions. The bidding documents also include the plans and specifications, and any Addenda issued prior to receipt of bids. All requirements and obligations of the Bidding Documents are hereby incorporated by reference into the Contract Documents and are binding on the Successful Bidder upon award of the contract.

Each Bidder by submitting his Bid represents that he has read and understands that Bidding Documents and his Bid is made in accordance therewith; and Bidder agrees to be bound by the terms and requirements set forth in the Bidding and Contract Documents; that he has visited the site, has familiarized himself with the local conditions under which the Work is to be performed herein, and has correlated his observations with the requirements of the proposed Contract Documents.

The Schedule for the project shall be as follows:

December 17, 2024	Mandatory Pre-Bid Conference 1:00 PM GoRaleigh Station/Moore Square 214 S Blount Street Raleigh, NC 27601
December 30, 2024	Last Day of Questions
January 3, 2025	Questions Answered By Addendum
January 14, 2025	Bids Due at 4:00 PM by email
TBD	Notice to Proceed
TBD	Finish Construction

All related questions should be directed to and bidding information may be obtained by emailing sara.tromba@raleighnc.gov.

Submit bids by email to sara.tromba@raleighnc.gov.

After Bids are opened, the Owner shall evaluate them in accordance with the methods and criteria set forth in the Instructions to Bidders. The Owner/City Council reserves the right to waive any informality or to reject any or all Bids. Unless all Bids are rejected, Award will be made to the lowest responsible and responsive Bidder, taking into consideration quality, performance and the time specified in the Bid Form for the performance of the Contract.

With each request for Bidding Documents supply the following information: Company name, contact person, street address, phone number, and email address for Bidding point of contact; N.C. contractor's license with limitation and classification; indicate if the firm will be a Prime bidder, Supplier or Sub-Contract.

Bidders will be required to show evidence that they are licensed to perform the work in the Bidding Documents as required by North Carolina General Statute, Chapter 87 and the Instruction to Bidders.

Bid Security in the amount of five percent (5%) of the Bid must accompany each Bid and shall be subject to the conditions provided in the Instruction to Bidders.

Pursuant to General Statutes of North Carolina Sections 143-128.2 and 143-131, and in accordance with City policy, the City of Raleigh encourages and provides equal opportunity for certified Disadvantaged Business Enterprises (DBE) to participate in all aspects of the City's contracting and procurement programs to include Professional Services; Goods and Other Services; and Construction. The prime contractor will be required to identify participation of DBE businesses in their Bid, and how that participation will be achieved.

Furthermore, the City's goal is to contract or sub-contract thirteen percent (13%) of the contract amount to certified DBEs on Federal Transit Administration funded projects.

CITY OF RALEIGH – PROPOSAL FORM
GoRaleigh Station Curb and Pavement Marking Repair
PROJECT # 274-GRSCurbandPavementMarkings-2024

City of Raleigh
Project Manager: Sara Tromba
Transportation/Transit
510 W Martin Street Suite 200 Raleigh, NC 27601

Date: December 9, 2024

The undersigned bidder has carefully examined the Form of Contract, the Form of Contract Bonds, the General Conditions, the Supplemental Conditions, the Plans and Specifications, all of which are acknowledged to be part of the proposal and the Proposal Form, and the Bidder has also carefully examined the site of the proposed work. The undersigned further agrees to sign a Contract for the work, if offered within ninety (90) days after receipt of Bids, and to furnish surety as specified, upon failure to do so, agrees to forfeit to the Owner, attached Bid Bond in the amount of 5% of the bid. The Bidder further agrees to provide and furnish all necessary materials, equipment, machinery, and labor necessary to complete the construction of the work in full, in complete accordance with the plans and specifications and the contract documents to the full and entire satisfaction of the City of Raleigh and in accordance with these documents within the time limit specified below.

Bidding submissions will follow a three-envelope submission process per the following:

- ☐ Place Bid Bond by itself within its own individual separate sealed opaque envelope and label 'Bid Bond' on envelope exterior along with project name, contractor's name, address and license information.
- ☐ Bidders shall place the completed Bid Form by itself in its own separate sealed opaque second envelope and label 'Bid Form' on exterior along with project name, date and time of bid opening, contractor's name, address and license information.
- ☐ All other required support documents should be placed in a third envelope along with the separately sealed Bid Bond envelope and Bid Form envelopes. This envelope is also to be labelled on the exterior with project name, date and time of bid opening, contractor's name, address and license information. All required bid information is to be contained within this sealed envelope.

In addition to all other agreements and assurances, the undersigned Bidder understands and hereby agrees as follows:

1. The Bidder represents and agrees to complete the entire project in the following number of Consecutive Calendar Days: **270 Days** from the date on the Notice to Proceed.
2. The Bidder agrees to comply with the City's policy to encourage bidders to use Certified DBE businesses as specified in the below DBE Requirements.

The Bidder agrees to execute the work described and set forth in the Plans and Specifications for the amounts as follows:

Base Bid:

(In written word)

\$ _____

(In numerals)

Owner's Contingency (10% of base bid):

(In written word)

\$ _____

(In numerals)

(Note that the Owner's Contingency shall only be used when pre-authorized in writing from the City. No mark-up shall be applied to reimbursable expenses.)

Total Bid Proposal (Base Bid + 10% Owner's Contingency):

(In written word)

\$ _____

(In numerals)

Name of General Contractor and License Number _____

Name of Electrical Contractor and License Number _____

Name of Plumbing Contractor and License Number _____

Name of Mechanical Contractor and License Number _____

GS143-128(d) requires all single prime bidders to identify their subcontractors for the above subdivisions of work. A contractor whose bid is accepted shall not substitute any person as subcontractor in the place of the subcontractor listed in the original bid, except (i) if the listed subcontractor's bid is later determined by the contractor to be non-responsible or non-responsive or the listed subcontractor refuses to enter into a contract for the complete performance of the bid work, or (ii) with the approval of the awarding authority for good cause shown by the contractor.

UNIT PRICES

Unit prices quoted and accepted shall apply throughout the life of the contract, except as otherwise specifically noted. Unit prices shall be applied, as appropriate, to compute the total value of changes to the base bid quantity of the work all in accordance with the contract documents.

Refer to Section 012200 "Unit Prices" for further clarification. N/A

ALLOWANCES

Include in the base bid proposal the following allowances as specified in Division 01, Section 012100 "Allowances."

Allowance No. 1: N/A

ACKNOWLEDGMENT OF RECEIPT OF ADDENDA

The undersigned Bidder hereby acknowledges receipt of the following Addenda:

<u>Addendum Number</u>	<u>Dated</u>	<u>Acknowledge Receipt</u> (initial)
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please check here if no addenda were received: _____

Acknowledged for: _____
(Name of firm or corporation making bid)

By: _____
(Signature of Authorized Representative)

Name: _____
(Print or Type)

Title: _____

Date: _____

PROPOSAL SIGNATURE PAGE

The bidder is required to furnish surety as specified in the General Conditions. Upon failure to do so, the bidder agrees to forfeit to the Owner the attached cashier's check, certified check, or bid bond in the amount of 5% of the total bid proposal.

The undersigned further agrees that in the case of failure on his part to execute the said contract and the bonds within ten (10) consecutive calendar days after being given written notice of the award of contract, the certified check, cash or bid bond accompanying this bid shall be paid into the funds of the owner's account set aside for the project.

Respectfully submitted this day of _____

By: _____
(Name of firm or corporation making bid)

WITNESS:

(Proprietorship or Partnership)

By: _____
Signature

Name: _____
Print or type

Title _____
(Owner/Partner/Pres./V.Pres)

Address _____

ATTEST:

By: _____

Title: _____
(Corp. Sec. or Asst. Sec. only)

License No. _____

Federal I.D. No. _____

Email Address: _____

Office Phone Number: _____

(CORPORATE SEAL)

BIDDER QUALIFICATIONS:

The Bidder shall furnish the following information; designed to assist the Owner in determining whether or not the Bidder is qualified to perform the work described in the Bid and Contract Documents:

1. List three references with contact person and telephone number who are qualified to objectively judge the results of similar work performed by the bidder in the last three years.

A. _____
NAME AND TITLE TELEPHONE NUMBER

PROJECT TITLE/DESCRIPTION DATE OF COMPLETION

B. _____
NAME AND TITLE TELEPHONE NUMBER

PROJECT TITLE/DESCRIPTION DATE OF COMPLETION

C. _____
NAME AND TITLE TELEPHONE NUMBER

PROJECT TITLE/DESCRIPTION DATE OF COMPLETION

2. List previous contracting experience, including contract dollar amounts:

NOTE: The Bidder shall attach additional sheets of information as needed to provide above requested information.

ADDITIONAL BIDDER'S CERTIFICATION

Acceptance of Terms:

In submitting this Proposal, the undersigned agrees that this Bid will remain in effect for a period of ninety (90) days following the opening of the Bids, that the undersigned agrees to enter into a Contract with the Owner, if awarded, on the basis of this Proposal, and that the undersigned agrees to complete the work in accordance with the Contract Documents.

Non-Collusion in Bidding:

The Bidder specifically agrees to abide by all applicable provisions of Article 3 of Chapter 133 of the North Carolina General Statutes. By submission of this Bid, each Bidder and each person signing on behalf of any Bidder certifies, and in case of a joint Bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best knowledge and belief:

1. The prices in this Bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other Bidder or to any competitor;
2. Unless otherwise required by law, the prices quoted in the Bid have not been knowingly disclosed by the Bidder and will not knowingly be disclosed by the Bidder prior to opening, directly or indirectly, to any other Bidder or to any competitor; and
3. No attempt has been made or will be made by the Bidder to induce any other person, partnership, or corporation to submit or not to submit a Bid for the purpose of restricting competition.

Type of Business:

The undersigned hereby represents that it is a

(corporation, partnership, or an individual)

If a corporation, the undersigned further represents that it is duly qualified as a corporation under the Laws of the State of North Carolina and it is authorized to do business in this State.

Firm Name

Date

Authorized Signature

Title

Name of Project

Address of Business

Office Telephone Number

CONTRACTOR'S PERFORMANCE POLICY

RESOLUTION NO. (1992) -790

A RESOLUTION TO REGULATE THE PARTICIPATION IN THE CITY CONSTRUCTION PROJECTS BY CONTRACTORS WHO MAY NOT BE CAPABLE OF TIMELY AND PROPER COMPLETION OF CITY PROJECTS.

WHEREAS, The City of Raleigh wishes to minimize cost and inconvenience to the citizenry caused by the failure of contractors to complete projects in a timely manner in accordance with approved project schedules; and

Whereas, North Carolina law allows cities to award bids to responsible bidders and the inability to complete work on time is one indication of a lack of responsibility.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RALEIGH:

Section 1. That the City Manager may disqualify bidders from participation in bidding and award of contracts for city construction projects based on the following conditions existing simultaneously:

A. The dollar value of the work completed is less than the dollar value of the work which should have been completed on the basis of the contractor's approved progress schedule by more than twenty percent of the current contract amount. The dollar amount of the work completed will be the total estimate to date shown in the latest partial pay estimate. The current contract amount will be the contract estimate plus accumulated overruns and less accumulated underruns shown in the latest partial payment estimate.

B. The percentage of the work completed is less than the percentage of contract time elapsed on the work by more than twenty percent. The percentage of work completed will be the dollar value of the work completed as defined above divided by the current contract amount as defined above. The percentage of contract time elapsed will be the number of calendar days elapsed as shown in the latest partial pay estimate divided by the total contract time in calendar days.

Section 2. The City Manager shall not include any late days, which are caused by the City in any of his calculations directed at determining bid status.

Section 3. All City construction project specifications shall contain a specific provision clearly outlining the policies set in this Resolution, including the criteria for determining whether a contractor is behind schedule, and the specifications shall clearly state the City's intent to enforce the provisions of this Resolution.

Section 4. The terms of the Resolution shall apply only to contracts for which the specifications for bidders are issued after the effective date of this Resolution.

Section 5. Any contractor who wishes to contest the decision of the City Manager declaring ineligibility may appeal to the City Council by delivering a notice of appeal to the City Clerk no later than ten days after receipt of the City Manager's decision. The notice of appeal shall clearly set out the reasons why the Contractor believes that the terms of this Resolution have been inappropriately applied or the equitable arguments for not applying this Resolution's terms. When considering an appeal the City Council shall consider, among other things, the report of the City Manager, the notice of appeal, and the contractor's current status on any other current City Contracts and its performance on any contracts to which the contractor and the City have been parties to within the two calendar years immediately preceding the filing of the notice of appeal.

Section 6. Bidders so disqualified shall remain disqualified for any period in which they are still in conflict with the schedule provisions of this section.

Section 7. This Resolution is effective upon adoption Adopted 10/6/92

SIGNATURE

PRINTED NAME

TITLE

DATE

END OF CITY OF RALEIGH – BID PROPOSAL FORM

GENERAL CONDITIONS

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1. DEFINITIONS OF TERMS

Wherever used in the Contract Documents, the following terms shall have the meanings indicated which shall be applicable to both the singular and plural thereof:

"Addenda" shall mean written or graphic instruments issued prior to the execution of the agreement, which modify or interpret the Contract Documents by additions, deletions, clarifications, or corrections.

"Architectural Supplemental Instructions" shall mean the information that allows an architect to provide additional instructions or make minor changes without having to re-work the entire construction plan.

"Authorization Request" shall mean the final action in approving a cost or change event. It may result in a change in the project's cost of work, general conditions or overheads, contingency, or other item which is included in the contract amount.

"Bad Weather Day" shall mean a day when construction Work cannot be performed and is attributable to unusual weather phenomena as defined herein.

"Bid" shall mean the offer or Proposal of the Bidder submitted on the prescribed form setting forth the price(s) for the Work to be performed.

"Bidder" shall mean any person, firm, or corporation submitting a Bid for the Work.

"Bonds" shall mean Bid, Performance, and Payment Bonds and other instruments of security, furnished by the Contractor and his surety in accordance with the Contract Documents.

"Change Order" shall mean the adjustment of the contract of time, or addition or deduction to the overall contract price. A Change Order shall be an amendment to the contract and requires approval by the City of Raleigh through the City Council or City Manager.

"Change Order Directive (COD)" shall mean an instrument used to provide written notice for the Contractor to proceed with the work directed by the Designer or Owner prior to issuance of a formal request for change proposal or change agreement by the Contractor.

"Consultant" shall be defined as the professional services firm employed by the City or Owner.

"Contract Documents" shall consist of Advertisement for Bids, Proposal, Bid Bond, Contract, Contract Performance Bond, Payment Bond, Instructions to Bidders, General Requirements, General Conditions, Supplementary Conditions, Technical Specifications, Certificates of Insurance, and Drawings and any other pertinent documents. The intent of these documents is to include all materials, appliances, tools, labor, and services of every kind necessary for the proper execution of the Work, and the terms and conditions of payment therefore. The Contract Documents shall be considered as one, and whatever is called for by any one of them shall be as binding as if called for by all.

"Contract Price" shall mean the total monies payable to the Contractor under the terms and conditions of the Contract Documents.

"Contract Time" shall mean the number of calendar days stated in the Contract Documents for the completion of the Work.

"Contractor" or "General Contractor" shall mean the individual, firm, or corporation undertaking the execution of the Work as an independent Contractor under the terms of the Contract and acting through his or its agents or employees.

"Cost or Change Event" shall mean a directive to perform work resulting from a proposed change. There may or may not be costs associated with the work. It is initiated as a proposal from the Contractor and sent to the Designer for review. If approved by the Designer, the Designer forwards it to the Owner as a recommendation from the Designer in the form of an Authorization Request.

"City" shall mean City of Raleigh.

"Designer" shall mean the professional architectural and/engineering firm and/or its subconsultants that are responsible for the project design and have placed their professional seals on the construction documents. Can also be noted as "Engineer".

"Drawings" shall mean the part of the Contract Documents, which show largely through graphical presentation the characteristics, design and scope of the Work to be performed and which have been prepared or approved by the City.

"Final Acceptance" shall be defined as concurrence between the Designer and the Owner to accept the project from the contractor. Final acceptance of the project shall not be considered before the final inspection is conducted. Final acceptance does not infer the lack of claims on a project.

"Liquidated Damages" shall mean the amount reasonably estimated in advance to cover the consequential damages associated with the City's economic loss in not having the use of the project for its intended purposes resulting from the Contractor's failure to complete the project by the completion date.

"Modification" shall mean the process of incorporating agreed changes or alterations made to a contract. A contract modification may introduce, revise or cancel specifications, delivery period, price, quantity or terms of an existing contract, while leaving its overall purpose and effect intact.

"Notice of Award" shall mean the written notice to the successful bidder of the acceptance of the bid as approved by the City Council. Notice may be issued in person or via regular mail, certified mail with receipt of delivery, or email with receipt of delivery.

"Notice to Proceed" shall mean written communication issued by the City or its Designer to the Contractor authorizing him to proceed with the Work and establishing the date of commencement of the Work. Notice may be issued in person or via regular mail, certified mail with receipt of delivery, or email with receipt of delivery.

"Owner" shall mean City of Raleigh.

"Owner's Contingency" shall mean the amount of funds included in the contract that represents the Owner's best estimate of funds to provide for allowances and to address unforeseen circumstances or other conditions that may arise during the construction of the project.

"Project" shall mean the undertaking to be performed as provided in the Contract Documents.

"Project Manager" shall be the individual or individuals assigned to coordinate the project and insure that City procedures are followed, and the quality of Work is up to the standards expected. "Request for Proposal" shall mean an offer by a contractor, in response to a request issued by the Designer or Owner for the purpose of requesting an equitable adjustment for a proposed change to an existing contract.

"Shall" is mandatory; "may" is permissive.

"Shop Drawings" shall mean all drawings, diagrams, illustrations, brochures, schedules, and other data, which are prepared by the Contractor, Subcontractor, manufacturer, Supplier, or distributor, which illustrate how specific portions of the Work shall be fabricated or installed.

"Specifications" shall mean a part of the Contract Documents consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards, and Workmanship specified for this Project.

"Subcontractor" shall mean an individual, firm, or corporation having a direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work at the site.

"Substantial Completion" shall mean that date determined by the City when the construction of the Project or an expressly stipulated part thereof is sufficiently completed, in accordance with the Contract Documents, so the Project or stipulated part can be fully utilized for the purposes for which it is intended.

"Supplemental General Conditions" shall mean a part of the Contract Documents consisting of modifications or additions to the General Conditions.

"Superintendent" shall mean the Contractor's authorized on job representative designated in writing by the Contractor prior to commencement of any Work

"Supplier" shall mean any person, supplier, or organization who furnishes materials or equipment for the Work, including that fabricated to a special design, but who does not perform labor at the site.

"Surety" shall mean the bonding or insurance company that represents the Contractor and that assumes responsibility for the completion of the project should the Contractor, for any reason, become unable to complete the project.

"Time Extension" shall mean an increase in the length of time specified in a contract resulting in a revised contract completion date.

"Work" of the Contractor or Subcontractor shall include all labor, material, equipment, transportation, skill, tools, machinery, and other equipment and things useful or necessary in order to complete the Contract.

"Written Notice" shall mean the notification either in handwritten, computer generated, typed, or email form that communicates information or directives.

2. APPLICABLE REQUIREMENTS

The Work shall comply with the Contract Documents and with all applicable codes, laws, and regulations of the City, State, or Federal agencies. In the event of any conflict between the terms of this

GENERAL CONDITIONS

Engineering Services - Construction Management

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Contract and such codes, laws, and regulations, the codes, laws, and regulations shall prevail. If the Contractor performs any Work contrary to such codes, laws, or regulations he shall assume full responsibility therefore and shall bear any and all costs necessary to correct the Work.

3. CONTRACT BID GUARRANTY AND SECURITY

BID GUARRANTY: Bidders shall furnish a bid guaranty in the form of cash, a certified cashier's check issued by a responsible bank or trust company insured by the Federal Deposit Insurance Corporation, made payable to the City of Raleigh, or a Bid Bond issued by a surety licensed to conduct business in the state where the Project is located. The amount of such guaranty shall be equal to 5% of the bid price. The Bid security of the successful Bidder will be retained until the Contractor has executed the Contract and furnished the required Contract security, whereupon it will be returned; if the Contractor fails to execute and deliver the Contract and furnish the required Contract security within ten (10) calendar days of the Notice of Award, Owner may annul the Notice of Award and the Bid security of the Bidder will be forfeited. The Bid security of any other Bidder who the Owner believes to have a reasonable chance of receiving the Award may be retained by Owner until the earlier of (1) the seventh day after the executed Contract is delivered by the Owner to Contractor and the required Contract security is furnished or (2) the sixty-first day after Bid opening. Bid security of other Bidders will be returned within ten (10) days of the Bid opening.

SECURITY: The Contractor shall furnish a Contract Performance Bond and a Payment Bond, each equal to one hundred percent (100%) of the Contract Price if the base bid price exceeds \$300,000. However, the City may impose this requirement on any contract in excess of \$30,000. Bonds given shall meet the requirements of the law of the State of North Carolina including but not limited to G.S. 143-129 and G.S. 44A-26. The surety on each Bond shall be a surety company satisfactory to the City and duly authorized to do business in the State of North Carolina.

The Contractor shall also furnish other bid security or bonds that may be required by various Federal, State or Local authorities having jurisdiction as a condition of obtaining permits.

4. NOTICE AND SERVICE THEREOF

Any notice to Contractor from the City relative to any part of this Contract shall be in accordance with the City's Form of Contract.

5. INTENT OF DRAWINGS AND SPECIFICATIONS

The intent of the Drawings, Specifications/project manual and all other documents comprising the Contract Documents, is that the Contractor shall be held responsible to provide and pay for all labor, materials, tools, power, water, equipment, transportation, and other facilities necessary for the proper execution of the Work in accordance with the Contract Documents and all incidental Work necessary to complete the Project in an acceptable manner, ready for use, occupancy, or operation by the City.

The Drawings, Specifications/project manual, and all other documents comprising the Contract Documents, shall be supplementary to each other, and any material, Workmanship, and/or service which may be in one, but not called for in the others, shall be as binding as if indicated, called for, or implied by all. In case of discrepancy or disagreement in the contract documents, the order of precedence shall be: Form of Construction Contract, General Conditions, Supplemental General Conditions, Project Special Conditions, Technical Specifications, large-scale drawings, and small-scale drawings.

Any discrepancies found between the Drawings and Specifications and site conditions or any inconsistencies or ambiguities in the Drawings or Specifications shall be immediately reported to the Designer for the City, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. Work done by the Contractor after his discovery of such discrepancies, inconsistencies, or ambiguities shall be done at the Contractor's risk.

Each section or type of Work is described separately in the Technical Specifications. For convenience of reference and to facilitate the letting of contracts and subcontracts, these Specifications are separated into titled sections. Such separation shall not, however, operate to make the City an arbiter to establish limits to the contracts between the Contractor and Subcontractors, nor shall such separation be interpreted as superseding normal construction trade jurisdictions. Should any item of material, equipment, Work, or combinations of such be required in one section, and not be described in that section and a similar item described in another section, that description shall apply regardless of the section under which it is described. In case of conflict between the Drawings and Specifications, the Specifications shall govern. Figure dimensions on Drawings shall govern over scale dimensions, and detailed drawings shall govern over general drawings.

Attention is directed to the fact that the detailed Specifications and separate sections may be written in short or abridged form. The Contractor shall, in regard to every section of the Specifications and Drawings of articles, materials, operations, or methods:

1. Provide each item mentioned and indicated, of quality or subject to qualifications noted.
2. Perform according to conditions stated, each operation prescribed.
3. Provide therefore all necessary labor, equipment and incidentals.

Whenever in these Specifications or on the Drawings the words "directed," "required," "permitted," "ordered," or words of like import are used, it shall be understood that the direction, requirement, permission or order of the City is intended, and similar words, "approved," "acceptable," "satisfactory," or words of like import shall mean approved by, acceptable to, or satisfactory to the City.

Notwithstanding the appearance of such language in the various sections of the Specifications as, "The Paving Contractor," "The Grading Contractor," etc., the Contractor is responsible to the City for the entire Contract and the execution of all Work referred to in the Contract Documents.

The Designer for the City may (without changing the scope of the Work) furnish the Contractor additional instructions and detail drawings, as necessary to carry out the Work required by the Contract Documents. The additional drawings and instructions thus supplied will become a part of the Contract Documents. The Contractor shall carry out the Work in accordance with the additional detail drawings and instructions.

6. PRESENT DOCUMENTS GOVERN

The Contractor shall in no case claim a waiver of any specification requirements on the basis of previous approval of material or Workmanship on other jobs of like nature or on the basis of what might be considered "standard" for material or Workmanship in any particular location. The Contract Documents for this job shall govern the Work.

7. CONTRACTOR'S SHOP DRAWINGS

Absent of more detailed Shop Drawing and Submittal Requirement Provisions noted elsewhere in the Contract or Administrative Specification Requirements, the provisions outlined below shall be followed:

Within thirty (30) consecutive days after the issuance of the Notice to Proceed, the Contractor shall submit a schedule for the submission of all shop drawings, product data, samples, and similar submittals to the Designer. The schedule shall indicate the items, relevant specification sections, other related submittal data, and the date when these items will be furnished to the Designer. Pay applications shall not be approved until the submittal schedule has been submitted.

The approved Drawings will be supplemented by such Shop Drawings as are needed to adequately control the Work. It is mutually agreed that all authorized alterations affecting the requirements and information given on the approved Drawings shall be in writing.

Shop Drawings to be furnished by the Contractor for any structure shall consist of such detailed drawings as may be required for the prosecution of the Work.

Shop Drawings must be approved by the Designer before the Work in question is performed. Drawings for false Work, centering, and form work may also be required, and in such cases shall be likewise subjected to approval unless approval be waived. It is expressly understood, however, that approval of the Contractor's Shop Drawings does not relieve the Contractor of any responsibility for accuracy of dimensions and details. It is mutually agreed that the Contractor shall be responsible for agreement and conformity of his Shop Drawings with the approved Drawings and Specifications.

It is the responsibility of the Contractor to review and approve all Shop Drawings for compliance with the contract documents, with signed evidence of review by the Contractor, before same are submitted to the Designer for approval. Shop Drawings that have not been reviewed and approved by the Contractor will not be approved.

Shop Drawings shall be submitted only by the Contractor who shall indicate by a signed stamp on the drawings that he has reviewed and approved the Shop Drawings and that the Work shown on them is in accordance with Contract requirements and has been checked for dimensions and relationship with Work of all other trades involved. Under no conditions shall Shop Drawings be accepted from anyone other than the Contractor.

The Contractor shall furnish the Designer at least six (6) hard copies of all Shop Drawings for approval. Shop drawings may also be electronically submitted for approval utilizing construction/project management software. Either the Designer or the Contractor shall be the license holder of the software, house the software program on its server, and provide access to the City via a secured password and username. The Designer shall review required submittals promptly, noting desired corrections, if any, and retaining three (3) copies for his use. The remaining copies will be returned to the Contractor by the Designer for his use not later than twenty-one (21) days from the date of the receipt for multiple disciplines or fourteen (14) days from the date of receipt for single discipline. The Contractor shall furnish the required submittals with sufficient information and accuracy to obtain required approval of any item with no more than three submittals. Designer will record time beyond the initial three submittals for reviewing subsequent submittals of shop drawings, samples, or other items requiring approval and the Contractor shall reimburse the Owner for the charges for such time accrued by the Designer. The Contractor shall also be responsible for any delays to the project's schedule resulting from additional reviews.

The Contract Price shall include the cost of furnishing all Shop Drawings and the Contractor will be allowed no extra compensation for such drawings.

The approval of such Shop Drawings shall not relieve the Contractor from responsibility for deviations from Drawings or the Specifications unless he has in writing called attention to such deviations, and the Designer has approved the changes or deviations in writing at the time of submission, nor shall it relieve him from the responsibility for errors of any kind in Shop Drawings. When the Contractor does call such deviations to the attention of the Designer, he shall state in his letter if such deviations involve any extra cost. If this is not mentioned, it will be assumed that no extra cost is involved for making the change.

8. INSTRUCTIONS, MINOR CHANGES, ETC.

All changes, alterations or instructions regarding any feature of the Work that differ from the Drawings and Specifications must be approved in writing in all cases, and no verbal orders will be regarded as a basis for claims for extra Work.

If the Contractor claims that any instruction by Drawings for a change or otherwise involves extra cost or an extension of time, he shall notify the Designer in writing within ten (10) days after the receipt of such instruction and, in any event, before proceeding to execute the Work. Thereafter, the procedure shall be the same as that described for changes in the Work. No such claim shall be valid unless made in accordance with the terms of this section.

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No claims for extra cost will be considered based on an escalation of material prices throughout the period of the Contract.

No extra Work is to be performed or any change made that involves any extra cost or extension of time unless approved through an Authorization Request.

The Designer shall have authority, however to order minor changes in the Work not necessitating a cost event or change order, and not inconsistent with the intent of the Contract Documents. Such minor changes shall be affected by written order, bulletin drawing, or supplemental architectural instructions and shall be binding to the Owner and the Contractor.

9 . EXAMINATION OF WORK BY CONTRACTOR

It is understood and agreed that the Contractor, has by careful examination, satisfied himself as to the nature and location of the Work, the conformation of the ground, the character, quality, and quantity of the facilities needed preliminary to and during the prosecution of the Work, the general and local conditions, and all other matters which can in any way affect the Work or the cost thereof under this Contract. No verbal agreement or conversation with any officer, agent, or employee of the City, either before or after the execution of the Contract, shall affect or modify any of the terms or obligations herein contained.

The Contractor shall, in good Workmanlike manner, do and perform all Work and furnish all supplies and materials, machinery, equipment, facilities, and means, except as herein otherwise expressly specified, necessary, or proper to perform and complete all the Work required by this Contract, within the time herein specified, in accordance with the provisions of this Contract and said Specifications and in accordance with the Drawings of the Work covered by this Contract and any and all supplemental drawings of the Work covered by this Contract. He shall furnish, erect, maintain, and remove such construction, plants, and such temporary Works as may be required. He alone shall be responsible for the safety, efficiency, and adequacy of his plants, appliances, and methods, and for any damage, which may result from their failure or their improper construction, maintenance, or operation. The Contractor shall observe, comply with, and be subject to all terms, conditions, requirements, and limitations of the Contract and Specifications, local ordinances, and State and Federal laws; and shall do, carry on, and complete the entire Work.

The Contractor is and remains fully responsible for his own acts or omissions as well as those of any subcontractor or any employee of either. The Contractor agrees that no contractual relationship exists between the subcontractor and the Owner in regard to the Contractor and that the subcontractor acts on this Work as an agent or employee of the Contractor.

10. MATERIALS, SERVICES AND FACILITIES

The Contractor shall at all times employ sufficient labor and equipment for prosecuting the Work to full completion in the manner and time specified. Failure of the Contractor to provide adequate labor and equipment may result in default of the Contract. The labor and equipment to be used in the Work by the Contractor shall be sufficient to meet the requirements of the Work and shall be such as to produce a satisfactory quality of Work, in accordance with accepted industry practices within the time specified in the Contract.

If at any time during the construction and completion of the Work covered by these construction documents, the language, conduct, or attire of any Workman of the various crafts be adjudged a nuisance to the Owner or Designer, or if any Workman be considered detrimental to the Work, the Contractor shall order such parties removed immediately from the ground.

Materials and equipment shall be so stored and handled as to insure the preservation of their quality and fitness for the Work. Stored materials and equipment to be incorporated in the Work shall be located

so as to facilitate prompt inspection. No product that has in any way become unfit for the intended purpose shall be incorporated into the Work.

Manufactured articles, materials and equipment shall be applied, installed, connected, erected, cleaned, and conditioned as directed by the manufacturer.

Materials, supplies, and equipment to be incorporated into the Work shall be new and unused unless otherwise specifically stated in the Contract Documents. The source of supply for all such products shall be submitted to the Designer, together with detailed descriptions thereof in the form of samples, Shop Drawings, tests, or other means necessary to adequately describe the items proposed. If, after trial, it is found that sources of supply, even though previously approved by the Designer, have not furnished products meeting the intent of the Contract Documents, the Contractor shall thereafter furnish products from other approved sources, and shall remove completed Work incorporating products which do not meet Contract requirements.

11. "OR EQUAL" CLAUSE

In accordance with G.S. 133-3, whenever a material or article required is specified or shown on the Drawings and/or Specifications by using the name of the proprietary product or of a particular manufacturer or vendor, the Designer shall denote that the quality standard of the article desired is the intent and the Contractor is not restricted to the specific brand, make, or manufacturer so named. The Designer shall specify three or more examples of items of equal or equivalent design. Any material or article that will perform adequately the duties imposed by the general design may be considered equal and satisfactory providing the material or article so proposed is of equal substance and function. The opinion of the Designer shall be final, and no substitute material or article shall be purchased or installed without such written approval.

Any proposed substitutions of materials, items, or equipment of equal or equivalent design shall be submitted to the Designer for approval or disapproval prior to the opening of bids. Proposed substitutions shall only be submitted by the prime contractors. No requests from subcontractors, manufacturers or suppliers will be accepted.

12. TESTING OF MATERIALS

Unless otherwise specifically provided for, testing of materials and finished articles to be incorporated in the Work at the site shall be made by bureaus, laboratories, or agencies approved by the Designer and Owner. All laboratory tests shall be paid by the Owner unless provided otherwise in the contract documents. The Contractor shall furnish evidence satisfactory to the Designer that the material and finished articles have passed the required tests prior to the incorporation of such materials and finished articles in the Work.

The Contractor shall pay for the laboratory tests to establish design mixes for concrete, asphalt, mortar and other materials proposed for use on the project, and for additional tests to prove compliance with contract documents where materials have tested deficient except where the testing laboratory did not follow the appropriate testing procedures as defined in the Specifications.

13. INSPECTION OF WORK BY OTHER PARTIES

The Contractor shall, at all times, permit and facilitate inspection of the Work by authorized representatives of the City and authorities having jurisdiction in connection with the Work of this Contract. The presence or observations of the Designer or other City representatives at the site of the Work shall not be construed to, in any manner, relieve the Contractor of the responsibility for strict compliance with the provisions of the Contract Documents.

All Work shall be inspected by the Designer or the Owner's or its Consultants prior to being covered by the Contractor. The Contractor shall give a minimum of two weeks' notice unless otherwise agreed to

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by all parties. Not less than 48 hours prior to inspection or testing, the Contractor shall coordinate said events with the Designer, Owner, and/or respective parties. If the inspection fails after the first re inspection, all costs associated with additional re-inspections, including travel, per diem, testing, etc. for the Designer or his authorized representative and the Owner's Consultants, shall be borne by the Contractor.

If the Specifications, City's instructions, laws, ordinances, or an authority having jurisdiction require any Work to be specially tested or approved, the Contractor shall give the Designer timely notice of its readiness for observation or inspection. If the inspection is by another authority, then the Designer shall be advised of the date fixed for such inspection. Required certificates of inspection shall be secured by the Contractor. Contractor having secured all certificates of inspection will deliver same to the Designer upon completion. If any Work should be covered up without approval or consent of the Designer, Project Manager, Special Inspector, it shall, if required by the Designer, be uncovered for examination at the Contractor's expense.

Should any disagreement or difference arise as to the estimate, quantities or classifications or as to the meaning of the Drawings or Specifications, or any point concerning the character, acceptability, and nature of the several kinds of Work, any materials and construction thereof, the decisions of the Designer shall be final and conclusive and binding upon all parties to the Contract.

14. AUTHORITY OF THE DESIGNER/ENGINEER

The Contractor shall perform all of the Work herein specified under the general direction, and to the entire satisfaction, approval, and acceptance of the Designer. The Designer shall decide all questions relating to measurements of quantities; the character of the Work performed and as to whether the rate of progress is such that the Work will be completed within the time limit of the Contract. All questions as to the meaning of these Specifications will be decided by the Designer.

The approval of the Designer of any materials, plants, equipment, Drawings, or of any other items executed, or proposed by the Contractor shall be construed only to constitute an approval of general design. Such approval shall not relieve the Contractor from the performance of the Work in accordance with the Contract Documents, or from any duty, obligations, performance guarantee, or other liability imposed upon him.

Where drawings or specifications are sealed by the Engineer, in lieu of Designer, these same provisions shall apply to the Engineer.

15. PROHIBITED INTERESTS

No official of the City who is authorized in such capacity and on behalf of the City to negotiate, make, accept or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction, or material supply contract, or any subcontract in connection with the construction of the Project, shall become directly or indirectly interested personally in this Contract or in any part hereof. No officer, employee, architect, attorney, engineer, or inspector of or for the City who is authorized in such capacity and on behalf of the City to exercise any legislative, executive, supervisory, or other similar functions in connection with the construction of the Project, shall become directly or indirectly interested personally in this Contract or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the Project.

16. REJECTIONS OF WORK AND MATERIALS, AND OWNER'S RIGHT TO DO WORK

All materials and equipment furnished, and all Work done that is not in accordance with the Drawings or Specifications or that is defective will be rejected. All rejected materials, equipment, or Work shall be removed immediately. If rejected materials, equipment, or Work is not removed within forty-eight hours from the date of letter of notification, the Designer shall have the right and authority to stop the Contractor and his Work immediately, and/or shall have the right to arrange for the removal of said rejected materials, equipment, or Work at the cost and expense of the Contractor. All rejected materials, equipment,

or Work shall be replaced with other material, equipment, or Work that conforms with the Drawings and Specifications at no additional cost to the City.

Inspection of the Work shall not relieve the Contractor of any of his obligations to fulfill his Contract and defective Work shall be made good regardless of whether such Work, material, or equipment has been previously inspected by the Designer and accepted or estimated for payment. Neither the final certificate, final payment, occupancy of the premises by the Owner, nor any provision of the contract, nor any other act or instrument of the Owner, nor the Designer shall relieve the Contractor from responsibility for negligence or faulty material or Workmanship or failure to comply with the drawings and Specifications.

If during the progress of the Work or during the period of guarantee, the Contractor fails to prosecute the Work properly or to perform any provision of the contract, the Owner, after seven days' written notice sent in person or via email with delivery confirmation or certified mail, return receipt requested, to the Contractor from the Designer, may perform or have performed that portion of Work. The cost of the Work may be deducted from any amount due or to become due to the Contractor, including retainage, such action and cost of same having been first approved by the Designer. Should the cost of such action of the Owner exceed the amount due or to become due to the Contractor, then the Contractor or his surety, or both, shall be liable for and shall pay to the Owner the amount of said excess.

17. ROYALTIES AND PATENTS

The Contractor shall hold and save the City and its officers, agents, servants, and employees, harmless from liability of any nature or kind, including cost and expenses for, or on account of, any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the Contract, including its use by the City, unless otherwise specifically stipulated in the Contract Documents.

18. CONTRACTOR'S SUPERINTENDENCE AND PERSONNEL

The Contractor will supervise and direct the Work. He will be solely responsible for the means, methods, techniques, sequences, and procedures of construction. An experienced Superintendent, and the necessary assistants competent to supervise the Work involved, shall be assigned to the Project by the Contractor and shall be present at the site when Work is in progress. The name of the Superintendent shall be submitted with qualifications of same prior to start of the Work and shall be approved by the Designer prior to start of the Work. The Superintendent so named by the Contractor shall be employed by the Contractor and shall have served in a supervisory capacity on at least one Project of like description and size performed by the Contractor during the previous twelve months. Under no circumstances shall an employee of any Subcontractor serve as Project Superintendent. The Superintendent shall represent the Contractor, and all directions given to the Superintendent shall be as binding as if given to the Contractor.

Only persons skilled in the type of Work that they are to perform shall be employed. The Contractor shall maintain discipline and good order among his employees and shall not employ on the Work any unfit person or persons or anyone unskilled in the Work assigned him. The Contractor shall insure that all employees maintain proper respect and courtesy for the any persons/individuals on the project site or in adjacent off-site areas.

19. LINES, GRADES AND MEASUREMENTS

Such stakes and markings as the Designer may set for either its or the Contractor's guidance shall be preserved by the Contractor. Failure to protect such stakes or markings, or gross negligence on the Contractor's part resulting in loss of same, may result in the Contractor being charged for their replacement.

The Contractor must exercise proper care and caution to verify the grades and figures given him before proceeding with the Work and shall be responsible for any damage or defective Work caused by his failure of such care and caution. The Contractor shall promptly notify the Designer of any errors or discrepancies he may discover in order that the proper corrections may be made.

20. LAYOUT OF WORK

The Contractor shall lay out its work from established base lines and bench marks indicated on the drawings, and shall perform all construction layout, computations and staking from the baseline information and control points shown on the drawings and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Designer/ Owner.

Prior to the start of any layout work, the Contractor shall provide the names and license numbers of the professional land surveyors and/or engineers, licensed in the State of North Carolina, who will be in charge of their survey for the project.

During initial site layout and before existing conditions are disturbed, the Contractor shall verify the basic survey data provided on the contract drawings. Verification shall be initiated from the point(s) shown on the contract drawings and shall include, as a minimum, benchmark elevations, horizontal control points, and sufficient spot checks of critical elevations to ensure that the survey data adequately reflects existing conditions.

The Contractor will provide the Designer and Owner with a copy of the initial, intermediate (as necessary to adequately define an area of concern) and final survey information in a PDF and Auto CADD drawing file, and a point data file in electronic data format which contains the survey control found (or established) in the field by the surveyor. The Auto CADD drawing file will be based on the coordinate system indicated on the contract drawings and will also show street r/w and property corners, easements, and the proposed improvements.

21. PERMITS, LICENSES, AND IMPACT FEES

Permits and licenses of a temporary nature necessary for the prosecution of the Work shall be secured by the Contractor. Costs for permits, licenses, and impact fees may be included in the total contract amount as an allowance. Refer to the bid documents or Supplemental General Conditions.

22. LAYOUT OF WORK

The Contractor's attention is directed to the fact that all applicable Federal, State, and City laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the Project shall apply to the Contract throughout, and they will be deemed to be included in the Contract Documents the same as though herein written out in full. The Contractor shall keep himself fully informed of all laws, ordinances, and regulations of the Federal, State, and City in any manner affecting those engaged or employed in the Work or the materials used in the Work or in any way affecting the conduct of the Work and of all orders and decrees of bodies or tribunals having any jurisdiction or authority over same. If any discrepancy or inconsistency should be discovered in this Contract, or in the Drawings or Specifications herein referred to, in relation to any such law, regulation, ordinance, order, or decree, he shall herewith report the same, in writing, to the Designer. The Contractor shall always observe and comply with all such laws, ordinances, and regulations, and shall protect and indemnify the City and its agents against any such law, ordinance, regulation, order, or decree, whether by himself or by his employees.

23. SUBCONTRACTING

The Contractor understands and agrees that it shall be a breach of this Contract to subcontract any portion of the Work on this Project unless the Work and the Contractor proposed to perform it have been declared in the Proposal to the Contract. Within thirty (30) days after award of the contract, the Contractor shall submit to the Designer and Owner a list giving the names and addresses of subcontractors, and equipment and material suppliers he proposes to use together with the scope of their respective parts of the Work. Should any subcontractor be disapproved by the Designer or Owner, the Designer or Owner shall communicate its decision to the Contractor. The Contractor shall present substitutions to the Designer

and Owner for approval. If the subcontractor is listed on the MWBE affidavits, another MWBE subcontractor with similar certification/classification shall be substituted.

THE CONTRACTOR FURTHER UNDERSTANDS AND AGREES THAT ANY WORK ON THIS PROJECT WHICH THE CONTRACTOR SECURES IN VIOLATION OF THIS PROVISION SHALL BE DEEMED A GRATUITY FROM THE CONTRACTOR FOR WHICH THE CITY OF RALEIGH SHALL NOT BE OBLIGATED TO PAY. ALSO, THAT ANY WORK DONE BY THE SUBCONTRACTOR AND NOT MEETING THE SPECIFICATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE AT HIS OWN COST.

Nothing contained in this Contract shall create any contractual relation between any Subcontractor and the City.

24. SUBCONTRACTORS

Within seven (7) days after award of the construction contract, the Contractor shall submit to the Designer and to the Owner's Representative, a list giving the names and addresses of subcontractors they propose to use, together with the scope of work and their respective parts of the work.

The Designer may furnish to any subcontractor, upon written request, evidence regarding amounts of money requested to be paid to the Contractor regarding the portion of the subcontractor's work; provided however, that the Contractor has sufficiently broken down the request to allow such determination.

The Owner reserves the right to limit the amount of work, or the percentage of work, to be subcontracted as hereinafter specified.

25. ASSIGNMENTS

The Contractor shall not assign the whole or any part of this Contract or any monies due or to become due hereunder without written consent of the City.

26. INSURANCE REQUIREMENTS

Review the City of Raleigh Form of Contract and Supplemental Conditions for the specific insurance requirements.

27. LAND AND RIGHTS-OF-WAY

Prior to entering on any land or right-of-way, the Contractor shall ascertain the requirements of applicable permits or easements secured by the City or required of the Contractor and shall conduct his Work in accordance with requirements thereof including the giving of notice.

The Contractor shall provide at his own expense and without liability to the City any additional land and access thereto that the Contractor may desire for temporary construction facilities, or for storage of materials.

28. PROTECTION OF WORK, PROPERTY AND PERSONS

The Contractor will be required to protect all Work and materials against damage or injury from the weather. If, in the opinion of the Designer, any Work or materials shall have been damaged or injured by reason of failure to protect such, all such materials or Work shall be removed and replaced at the expense of the Contractor.

The Contractor will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. He will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees on the Work and other

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persons who may be affected thereby, all the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, lakes, drainage ways, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction. Contractor shall provide continuously sufficient illumination at all barricades and at protective barriers around excavations so that the public is adequately warned of such hazards. The Contractor shall, where necessary, provide and maintain access to and from all adjacent properties as directed by the plans and Specifications, or the Designer, or the Owner's Representative, for street rights of way, along the line of his Work. He shall abide by the Manual on Uniform Traffic Control Devices (MUTCD) for any street closures or traffic control.

The Contractor will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. He will erect and maintain, as required by the conditions and progress of the Work, all necessary warning safeguards for devices and safety and protection of the Work, the public, and adjoining property. He will notify Owners of adjacent utilities when prosecution of the Work may affect them. The Contractor will remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the Contractor, any Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

The Contractor shall, prior to commencing other on-site Work, accurately locate above and below ground utilities and structures, which may be affected by the Work, using whatever means may be appropriate. The Contractor shall mark the location of existing utilities and structures, not otherwise readily visible, with flagging, stakes, barricades, or other suitable means, and shall preserve and protect all utilities and placement during construction. He shall notify the Designer promptly on discovery of any conflict between the Contract Documents and any existing facility.

In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, or unanticipated conditions where delay would substantially impact the time or cost of Work, the Contractor, upon notification to the Designer, shall act to prevent threatened damage, injury, or loss. Any claim for compensation or extension of time by the Contractor due to such extra Work shall be submitted to the Designer within ten (10) days of the date of performing such Work or deviations in the manner prescribed for a cost event or change order. The Designer will evaluate and determine if the claims asserted by the Contractor warrant a cost event or change order and will make a recommendation to the Owner.

All existing utilities, both public and private, including sewer, gas, water, electrical, and telephone services, etc., shall be protected and their operation shall be maintained through the course of the Work. Any temporary shutdown of an existing service shall be arranged between the Contractor and the utility responsible and hold the City harmless from the result of any damage that may occur as a result of the Contractor's activities.

See the City's Form of Contract and the Supplementary Conditions for additional safety requirements.

29. PRIOR USE BY CITY

Prior to completion of the Work, the City may take over operation and/or use of the uncompleted Project or portions thereof. The Contractor must agree to the prior use, and it must not prevent the Contractor from completing the Work. Such prior use of facilities by the City shall not be deemed as acceptance of any Work or relieve the Contractor from any of the requirements of the Contract Documents.

Where the City has beneficial occupancy of a usable facility prior to the expiration of the specified Contract Time, but where contract Work items remain outstanding, the City, at its option, may, in lieu of all or a proportion of liquidated damages owed by the Contractor, charge the Contractor for actual cost of administering the Contract for a period subsequent to expiration of the Contract completion date (not to exceed the total amount which could be assessed under liquidated damages).

30. CLEANING UP AND SITE ACCESS

The Contractor shall at all times keep the premises free from accumulation of waste materials or rubbish caused by Contractor's employees or Work. Upon completion of the Work, the Contractor shall remove all his equipment, tools, materials, and other articles from the property of the City. Delivery of construction materials and equipment shall be only from locations approved by the City.

31. DISPOSAL OF WASTE MATERIALS FROM ANY CONSTRUCTION

Disposal of all waste material from construction sites shall be made in strict accordance with all State laws and City ordinances pertaining to disposal of construction or hazardous waste. It shall be the responsibility of the Contractor to secure the necessary permits and provide all information required to secure said permits. The Contractor shall designate the disposal site prior to beginning construction and in the event waste material is to be disposed of on private property, a letter from the property Owner shall be furnished to the Owner or its representative granting the Contractor or his agent(s) such permission and listing the requirements made by the property Owner on the Contractor, if any.

32. CHANGES IN THE WORK

The City may at any time, as the need arises, order changes within the scope of the Work without invalidating the agreement. If such changes increase or decrease the amount due under the Contract Documents or in the time required for performance of the Work, an adjustment may be authorized by a cost event or change order.

The Contractor must assert any request for an adjustment to the contract price, performance schedule, or both, in writing no later than 10 days from the Contractor's first knowledge of the change, or its right to assert such request for equitable adjustment shall be considered waived. Under no circumstance shall any pending request for adjustment or dispute excuse the Contractor from proceeding with its performance, as changed. The Owner, in its sole discretion, may receive and act upon any request for equitable adjustment at any time before final payment.

The Designer, also, may at any time, make changes in the details of the Work as may also be approved by the Owner. The Contractor shall proceed with the performance of any changes in the Work so ordered by the Designer unless the Contractor believes that such change entitles him to a change in contract price, time, or both, in which event he shall give the Designer written notice thereof within five (5) days after the receipt of the ordered change, and the Contractor shall not execute such changes pending the receipt of authorization from the Owner or the Designer.

33. MODIFICATION AND PRICE PROPOSALS (Form is attached at the end of the General Conditions)

The City may issue modification and price proposal requests for changes during the contract. The Contractor shall submit itemized price proposals including those for all subcontractors and sub-tiers for any such requests. The format used by the City for an adjustment in accordance with this term shall be a Request for Proposal (RFP). The Contractor's proposal shall be submitted within 10 days, or as otherwise directed by the Department, of the Contractor's first knowledge of the proposed change or receipt of the RFP. The City or Designer may also issue a Notice to Proceed associated with the request for proposal should it be determined to be in the City's best interest.

The proposal shall include a detailed breakdown of all labor, equipment, materials, supplies, overhead and profit costs for both the contractor and all subcontractors at any tier to allow a review of the proposal. Material, labor, equipment and other direct cost shall be summarized and totaled as construction direct costs in the proposal. Overheads, profit, and bond shall be added as appropriate line items shown as indirect or soft cost in the proposal. Cost estimates or pricing detail backup shall be completely itemized to include direct labor man-hours, individual craft, and hourly wage rate. Include verifiable labor burden (including craft fringes, FUI, SUI, and FICA) as a separate line item.

All subcontractor proposals shall include this same level of breakdown and detail and shall be so noted in the Contractor's proposal. The contractor shall provide copies of any quotations that have been received in regard to the proposal and shall ensure that adequate competition has been obtained such that the proposal is fair and reasonable. Any credit for deleted work shall also be reflected on the proposal.

Such proposal shall also include a detailed justification for any time extension request that is being requested as part of the equitable adjustment. Any time extension request that arise from the proposal shall be clearly noted, shall identify the specific activity or activities involved, and shall depict the changes necessary in the project schedule in order to accomplish the change. The contractor is advised that any request in contract period must demonstrate that there has been an increase in the critical path for completion of the project that is directly attributed to the change. The contractor shall provide a revised project schedule incorporating any time extension resulting as part of the equitable adjustment.

Lump sum cost estimates or price proposals shall be rejected and returned to the Contractor for itemization as described above. Failure of the Contractor to submit properly itemized cost estimates or price proposals shall not constitute an excusable delay. The equitable adjustment shall not include increased costs or time extension for delay resulting from the Contractor's failure to provide notice or to diligently continue performance. No proposal from the Contractor for an equitable adjustment shall be allowed if not asserted within time frames in this clause.

Following is a Sample Quotation Form for Cost Change Proposals:

Project:

Brief Description of Change:

- | | | | |
|----|---|----------|---|
| 1. | Materials/ Products (itemized breakdown / quotes attached)
Attach additional sheets as required. | \$ _____ | 1 |
| 2. | Owned Equipment (list each item separately)* | \$ _____ | |
| | Rental of Equipment (list each item separately)* | \$ _____ | |
| | Subtotal | \$ _____ | 2 |
| | TOTAL of 1 + 2 | \$ _____ | A |
| 3. | Labor (itemized breakdown) | \$ _____ | 3 |
| 4. | Insurance (Worker's Compensation, Social Security, or as
otherwise required or specified): % [Capped at <u>30%</u>] | \$ _____ | 4 |
| | TOTAL (A) + 3 + 4 | \$ _____ | B |
| 5. | Overhead and Profit { <u>15%</u> of Total (B)}** | \$ _____ | 5 |
| | TOTAL (B) + 5 | \$ _____ | C |
| 6. | Sales Taxes on Total (A) | \$ _____ | 6 |
| | TOTAL of (C) +6 | \$ _____ | D |
| 7. | Subcontracted Work (if applicable in a similar breakdown
(through total (D). Profit and overhead allowance is 15%) | \$ _____ | 7 |
| 8. | Prime Contractor's overhead and profit on item 7 sub- | | |

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contractors' bids (5%)***	\$ _____ 8
TOTAL of 7 + 8	\$ _____ E
TOTAL of (D) + (E)	\$ _____ F
9. Performance/Payment Bonds on total (F)	\$ _____ 9

Extension of time requested: _____ calendar days
 (Time extension request must be provided with detailed schedule information noting the activities on the critical path that are affected by the change)

Notes:

- *- Include current schedules with each request if equipment is involved.
- ** - In case of deductible changes, this figure will be ten percent (10%).
- *** - In case of deductible changes, this figure will be zero percent (0%).

The contractor may submit for approval recent audited financial statements performed in accordance with generally accepted accounting procedures to help establish an overhead rate for this project. Absent of this information, the rates noted above shall apply.

Where the extra Work involved is covered by unit prices quoted in the proposal, or subsequently agreed to by the Contractor, Designer, and the City, the value of the change shall be computed by application of unit prices based on quantities, estimate or actual as agreed of the items involved, except in such cases where a quantity exceeds the estimated quantity allowance in the contract by more than 15%. In such cases, either party may elect to negotiate a new unit price, based on actual costs, or apply the unit prices in the original bid/proposal subject to the Variations in Estimated Quantity requirement.

34. TIME FOR COMPLETION, LIQUIDATED DAMAGES AND TIME EXTENSIONS

The time of completion is expressed as the number of calendar days from the Notice to Proceed. It is hereby understood and mutually agreed, by and between the Contractor and the City, that the date of beginning, rate of progress and the time for completion of the Work are essential conditions of this Contract; and it is further mutually understood and agreed that the Work embraced in this Contract shall be commenced on a date to be specified in the Notice to Proceed.

The Contractor agrees that said Work shall be prosecuted regularly, diligently and uninterrupted at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the City, that the time for the completion of the Work described herein is a reasonable time for the completion of the same, taking into consideration the average climate range prevailing in this locality.

The Contractor shall commence work as outlined in the Notice to Proceed and shall fully complete all work hereunder within the time of completion stated. For each day in excess of the contract completion number of days, the Contractor(s) shall pay the Owner the sum stated 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.

The Contractor acknowledges that delays will damage the Owner, but also acknowledges that proof of such damages would be difficult and costly for both parties to determine, and that the injury to the Owner which could result from a failure of the Contractor to complete the Project on schedule is uncertain and cannot be computed with exact precision. In order to liquidate in advance the delay damages that the Owner will be entitled to recover from the Contractor in the event of unexcused delays in the completion of the Project, the Contractor agrees that it will pay, and that the Owner may retain from the funds otherwise

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to be paid to the Contractor, the following Liquidated Damages and additional Owner Engineering Expenses and Other Fees, which sums are agreed upon as a reasonable and proper measure of damages which the Owner will sustain by failure of the Contractor to complete Work within the time stipulated, and as Owner's sole and exclusive remedy for any such delays

Owner's Liquidated Damages:	\$450/Day
Owner's Additional Engineering Expenses and Other Fees:	<u>\$50/Day</u>
Total Liquidated Damages:	\$500/Day

It is further agreed that time is of the essence for this Contract and of the Specifications wherein a definite portion and certain length of time is fixed for the performance of any act whatsoever; and where under the Contract an additional time is allowed for the completion of any Work, the new time limit fixed by such extension shall be of the essence for this Contract.

Provided, that the Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the Work is due to unforeseeable causes beyond the control and without the fault or negligence of the Contractor or that of their subcontractor at any tier, including but not restricted to unavoidable casualties; by acts of God or of the public enemy; by acts of the Government in either its sovereign or contractual capacity; by acts of another Contractor in the performance of a contract with the City; by fires; by floods; by epidemics; by quarantine restrictions; by strikes; by freight embargoes; by unusually severe weather exceeding the average climatic conditions in that area of the Work or by any other causes which the Designer and Owner determine may just the delay, then the contract time may be extended by change order for the time as determined to be reasonable.

Time extensions under this provision do not entitle the Contractor to compensable damages for delays. Any Contractor claim for compensable damages is limited to delays caused solely by the Owner or its agents. Contractor caused delays shall be accounted for before Owner or Designer caused delays in the case of concurrent delays.

Provided further, that the Contractor shall within ten (10) days from the beginning of such delay, notify the City, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify the Contractor within a reasonable time of its decision in the matter.

35. WEATHER DELAY TIME EXTENSIONS

As noted in the General Conditions Clause entitled, TIME FOR COMPLETION, LIQUIDATED DAMAGES AND TIME EXTENSIONS, if the contract is delayed at any time in the progress of his Work by abnormal weather conditions not reasonably anticipated for the locality where the Work is performed, then the contract time may be extended by change order only for the time which the Designer and Owner may determine is reasonable. The methods to be used for determining the weather delay time extensions are as outlined in this section.

Time extensions will not be granted for rain, wind, snow, or other natural phenomena of normal intensity for the locality where Work is performed. The time for completion includes an allowance for bad weather days based on climatological data and is adjusted to reflect the number of working days per month, which would be affected.

For the purposes of determining the extent of a delay attributable to unusual weather phenomena, please see the table below which notes the maximum number of days by month that can be considered "bad weather" days. For the purposes of this contract, bad weather days to be anticipated are defined as follows:

- a. Days on which precipitation exceeds 0.10 inch.
- b. Days on which the temperature fails to exceed 40 degrees F average.

(A day, which qualifies on criteria for both precipitation and temperature, shall be counted as one day.)

Bad weather working days to be included in the contractor's schedule are:

Month	Days	Month	Days	Month	Days
January	17	May	7	September	5
February	15	June	4	October	3
March	5	July	5	November	9
April	4	August	5	December	10

The Contractor shall note actual job site weather conditions on the daily report of construction, along with work performed and any effect of weather conditions on the scheduled activities. Tabulations of weather conditions on the job site, and any effects of weather on the critical path activities, shall be totaled on a monthly basis as work progresses. Periods where weather conditions are more favorable than anticipated shall also be accounted in the weather analysis. If the total accumulated number of working days lost to bad weather exceeds the total number tabulated above, the time for completion will be extended by the difference. Time of completion will not be adjusted for actual bad weather days which total less than the number included in the tabulation.

No weather delays shall be considered for building or structure construction after the building or structure has been dried in, unless such other Work claimed to be delayed is on the critical path of the baseline schedule or approved updated schedule. This determination will be made in consultation between the Designer and Owner.

36. PAYMENTS TO CONTRACTOR

Cost Breakdown - The Contractor shall be prepared to submit a cost breakdown * schedule of values immediately after the opening of Bids. Cost breakdown shall be based on values of parts of the Work as divided according to sections of the Specifications and shall be further subdivided into labor and materials. The Contractor shall use forms similar to the AIA G702 & G703 Forms for cost breakdown and payment requests. Other pay request forms as provided or approved by the Owner may also be used.

Applications for payment shall be submitted to the Designer for review and certification prior to submittal to the Owner for payment. Applications that have not been certified by the Designer shall be rejected by the Owner and returned to the Contractor. Designers will forward certified pay applications to the Project Manager for prompt payment. The pay application shall include the following information:

1. Total of the contract including change orders or approved authorization requests.
2. Value of Work completed to date.
3. Less 5% Retainage (see additional clarification in this section).
4. Less previous payments.
5. Current amount due.
6. The Contractor shall provide a sales tax statement certifying the amount of sales taxes paid for the Work provided under the contract. Manufacturers are not exempt from paying North Carolina sales taxes for providing an item directly to the City of Raleigh. If you have any questions about the sales tax requirements for the state of North Carolina, please contact the North Carolina Department of Revenue at (919)707-0880.
7. Updated progress schedule reflecting scheduled and actual completion percentages for the overall project as well as activity progress.

As specified in G.S. 143-134.1(b), within seven (7) days of receipt of payment by the Contractor of each periodic or final payment, the Contractor shall pay its subcontractor(s) based on Work completed or service(s) provided. If any periodic or final payment to the subcontractor is delayed by more than seven days after receipt of periodic or final payment by the Contractor, the Contractor shall pay the subcontractor interest, beginning on the eighth day, as a rate of one percent (1%) per month or fraction thereof on the unpaid balance as is due.

In accordance with G.S. 143-134.1(b1), no retainage on periodic or final payments made by the Owner or Contractor shall be allowed on public construction contracts in which the total project costs are less than one hundred thousand dollars (\$100,000). When the project is fifty percent (50%) complete, the Owner, with written consent of the surety, shall not retain any further retainage from periodic payments due the Contractor, if the Contractor continues to perform satisfactorily and any nonconforming Work identified in writing prior to that time by the designer or Owner has been corrected and accepted by the designer or Owner. If the Owner determines that the Contractor's performance is unsatisfactory, the Owner may reinstate retainage.

Each pay application shall reference the Owner's assigned purchase order number.

Materials and Work Covered by Partial Payments - All materials and Work covered by progress payments shall, upon payment thereof, become the sole property of the Owner, but this provision shall not be construed as relieving the Contractor from the sole responsibility for the care and protection of materials and Work upon which payments have been made, or the restoration of any damaged Work.

37. STORED MATERIALS

In the preparation of partial estimates, the Owner **NBZ** authorize payment for material delivered to the site and preparatory work done to be taken into consideration subject to the following requirements:

- 1) The materials have been submitted and approved for use on the project.
- 2) The materials are satisfactorily stored to protect the materials for their intended use.
- 3) The Contractor has provided a detailed paid bill of sale or invoice that notes the type and quantity of material included on the invoice, complete with a schedule of unit price values, such that the material inventory can be tracked during installation.

The Contractor shall provide inventory control schedule with each partial payment request that reflects that type of stored material, quantity, unit prices, a schedule noting opening, used that period and ending inventory of materials and total summary of stored material amount being requested on the partial estimate. A copy of a suitable form that may be used by the Contractor is included as an attachment.

The Contractor acknowledges that it has responsibility to insure and protect such stored materials under the terms of its bond and insurance coverage with the Owner, and to maintain such stored materials in proper condition for installation and to fulfill the contract requirements when installed. Payment for the materials as described shall constitute a transfer of title to the Owner but such transfer does not relieve the Contractor of the responsibility to inspect, safeguard and protect the stored materials until they are incorporated into the permanent work. Payment for the materials does not constitute the start of any warranty, either express or implied, as such action shall not begin until the installation is complete and the work accepted.

The Contractor shall be responsible for the safety and security of subject materials and assume all risk for loss of materials.

Materials delivered to the Contractor at locations other than the project site may also be taken into consideration if, in addition to the above, the Contractor provide evidence the materials are being stored in a secured and protected facility and environment. The location for such storage shall be approved by the Designer/ Owner.

38. PAYMENTS WITHHELD

The Designer may recommend to the Owner to withhold payment for any of the following reasons:

- a. Faulty Work not corrected.
- b. The unpaid balance on the contract is insufficient to complete the Work in the judgment of the Designer.

- c. To provide for sufficient contract balance to cover liquidated damages that will be assessed.
- d. Evidence that subcontractors have not been paid.

39. SCHEDULES, REPORTS AND RECORDS

The Contractor shall submit to the Designer such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records, and other data as the Designer may request concerning Work performed or to be performed.

The Contractor shall submit to the Designer within thirty (30) days after the issuance of the Notice to Proceed schedules showing the order in which he proposes to carry on the Work, including dates at which he will start the various parts of the Work, estimated date of completion of each part; and, as applicable, the dates at which special detail drawings will be required, and respective dates for submission of Shop Drawings, the beginning of manufacture, the testing and the installation of materials, supplies and equipment. The basic project schedule shall be presented at the preconstruction meeting and no partial payments shall be made until it has been submitted to the Designer and City. The Designer shall specify acceptable scheduling or project management software programs, type of schedule methodology, either bar chart or critical path, to be utilized by the Contractor in reflecting the construction project's progress. The Contractor shall provide the schedule to the Designer and Owner electronically and in hard copy. See supplemental conditions if there are preferred scheduling software required by the Designer and/or Owner and any specific scheduling requirements.

Where a bar chart schedule is required, it shall be time-scaled in weekly increments, shall indicate the estimated starting and completion dates for each major element of Work by trade and by area, level, or zone, and shall schedule dates for all salient features, including, but not limited to the placing of orders for materials, submission of shop drawings, and other submittals for approval, approval of shop drawings by Designers, the manufacture and delivery of material, the testing and the installation of materials, supplies and equipment and all Work activities to be performed by the Contractor. The Contractor shall allow sufficient time in his schedule for all commissioning, required inspections and completion of the final punch list(s). Each Work activity will be assigned a time estimate by the Contractor. One day shall be the smallest time unit used.

Critical Path Method (CPM) schedule is required for all formal projects. The CPM schedule shall be in time-scaled precedence format. It shall be drawn or plotted with activities grouped or zoned by Work area of subcontract as opposed to random format. The CPM schedule shall be time-scaled on a weekly basis and shall be drawn or plotted at a level of detail or logic which will schedule all salient features of the Work to be performed by the Contractor. The Contractor shall allow sufficient time in his schedule for all commissioning, required inspections, and completion of final punch list(s). Each Work activity will be assigned a time estimate by the Contractor. One day shall be the smallest time unit used.

The CPM will identify and describe each activity, state the duration of each activity, the calendar dates for the early and late start and the early and late finish of each activity, and clearly highlight all activities on the critical path. "Total float" and "free float" shall be indicated for all activities. Float time shall not be considered for the exclusive use or benefit of either the Owner or the Contractor but must be allocated in the best interest of completing the Work within the contract time. Extensions to the Contract time, when granted, will be granted only when equitable time adjustment exceeds the total float in the activity or path of activities affected by the change.

A cumulative progress-versus-time curve for the activities shall be shown. The vertical scale shall represent cumulative project progress and the horizontal scale shall represent time. Scheduled cumulative progress shall be calculated and plotted on the scale. Actual progress shall be calculated with each payment and plotted as work progresses. This project earnings curve indicating scheduled earnings vs. actual earnings shall generally be plotted and reflected as an earnings "S" curve. The Contractor shall submit this as a schedule of payments that they anticipate they will earn during the course of the Work.

The Contractor shall submit updated schedules at each monthly meeting or at the request of the Designer or Owner. If any activities are behind schedule, the Contractor must indicate in writing what measures will be taken to bring each activity back on schedule and to ensure that the contract completion date is not exceeded. A plan of action and recovery schedule shall be developed and submitted to the Designer when: (1) the Contractor's report indicates delays, that are in the opinion of the Designer or Owner, of sufficient magnitude that the Contractor's ability to complete the Work by the scheduled completion date is brought into question; or (2) the updated construction schedule is thirty (30) days behind the planned or baseline schedule and no legitimate time extensions are in process or have been approved; or (3) the Contractor desires to make changes in the logic (sequencing of Work) or the planned duration of future activities of the CPM schedule which, in the opinion of the Designer or Owner, are of a major nature. The plan of action, when requested by the Designer or Owner, shall be submitted to the Designer and Owner, within five calendar (5) days of the request. The recovery schedule, when required, shall be submitted to the Designer and Owner, within five (5) calendar days of the request.

Failure to provide updated construction schedules, plans of action, or recovery schedules, as requested or required, shall be considered grounds for rejection of pay applications.

40. CITY'S RIGHT TO TERMINATE

See the City of Raleigh Form of Contract concerning the City's right to terminate.

41. FINAL ACCEPTANCE OF WORK AND FINAL PAYMENT

Before issuing final payment, the Contractor shall promptly remove from the premises all materials condemned by the Owner's Representative or Consultant as failing to conform with the Contract, whether incorporated in the work or not, and the Contractor shall promptly replace and re-execute his own work in accordance with the Contract and without expense to the City and shall bear the expense of making good all work of other contractors destroyed or damaged by such removal or replacement.

Final Acceptance shall occur when the Designer and Owner mutually agree to accept the project from the contractor. Final acceptance of the project shall not be considered before the final inspection is conducted. Final acceptance of the project may occur prior to correction of punch list items.

Final Inspection: Upon notice from the Contractor that his Work is completed, the Designer and Owner shall make a final inspection of the Work and shall notify the Contractor of all instances where his Work fails to comply with the Drawings and Specifications, as well as any defects he may discover. Deficiencies shall be recorded on a "punch list" and the Contractor shall immediately make such alterations as are necessary to make the Work comply with the Drawings and Specifications.

Final Payment: When the Work under this Contract is completed, a final payment request shall be submitted representing the original Contract Price, cost events, and change orders to the Contract. The final payment shall not be due until the Contractor shall have completed all Work necessary and reasonably incidental to the Contract, including final clean up.

The final payment of monies or retained amount due the Contractor for the contract shall not become due until the Contractor has furnished to the Owner, through the Designer, an affidavit signed, sworn and notarized to the effect that all payments for materials, services or subcontracted work in connection with his contract have been satisfied, and that no claims or liens exist against the Contractor in connection with this contract. To the event that the Contractor cannot obtain similar affidavits from sub contractors to protect the Contractor and the Owner from possible liens or claims against the sub-contractor, the Contractor shall state in his affidavit that no claims or liens exist against any sub-contractor to the best of his (the Contractor's) knowledge, and, if any appear afterward, the Contractor shall hold and save the Owner harmless.

The final payment may not be processed until the Designer has certified that the project has been completed in accordance with the contract Specifications and drawings.

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Final acceptance of the Work and the making of final payment shall not constitute a waiver of any claims by the City. Payments otherwise due the Contractor, including Retainage, may be withheld by the City because of defective Work not remedied and unadjusted damage to others by the Contractor or Subcontractors, vendors or laborers.

All requests for final payment must be submitted within 60 days after the Work has been completed and accepted by the City. All requests are subject to final approval and audit by the City of Raleigh.

42 . CONSTRUCTION INSPECTION

The Contractor shall maintain an adequate inspection system and perform all inspections to ensure that the work performed under this contract, including that of all subcontractors, is performed per the contract requirements. The Contractor shall maintain complete inspection records and shall make them available to the City. All work shall be conducted under the general direction of the Contractor. As referenced in Section 13, Inspection of Work by Other Parties, all work is subject to City inspection and tests at all places and at all reasonable times before final acceptance to ensure compliance with the terms of this contract. Such inspections by the City are for the benefit of the City and do not relieve the Contractor of its responsibility for providing adequate inspection and control measures for its work and the work of its subcontractors. Such inspections do not constitute any acceptance of the work by the City unless such partial acceptance is done in writing by the City and clearly indicates the scope of work that is being accepted by the City.

As stated in Section 16. Rejection of Work and Materials and Owner's Right to Do Work, the Contractor shall promptly replace or correct work, without charge, that is found to be in non-conformance with contract requirements unless, in the City's interest, the City consents to accept the work with an appropriate adjustment in the contractor price.

The Contractor shall promptly segregate and remove any rejected work or materials from the work area. If the contractor does not promptly remove or correct defective or rejected work, the City may replace or correct the work and charge the cost to the Contractor or terminate the contract for Default.

43. QUALITY CONTROL

The contractor shall develop and implement a quality control system on subject project to ensure the construction is performed per contract requirements. The quality control system shall consist of plans, procedures, and organization necessary to produce an end-product, which complies with the contract requirements. The system shall cover all construction operations, both onsite and offsite, and shall be keyed to the proposed construction sequence. The system shall also include all work performed by its's subcontractors. The Contractor's project superintendent, separate quality control manager or other designated individual will be appointed by the Contractor to be responsible for the quality of work on the job site. The designated individual shall have the authority to require corrective action for work found to not be in compliance with the contract requirements. Deficiencies and non-conforming work shall be tracked until they have been corrected and found to be in compliance with requirements. Results of quality control inspections shall be documented on the daily report of construction.

44. DAILY REPORT OF CONSTRUCTION

The Contractor's appointed representative shall provide a daily report of construction for each day work is performed on the project. The report is a requirement of the contractor's inspection of construction requirement to ensure all work is performed in compliance with contract requirements. Failure to provide a complete and accurate daily report may result in payment being withheld until the Contractor satisfactorily demonstrates that the work has been inspected. The report, at a minimum, shall include items as noted below to adequately describe the work:

- a. List of Prime and any subcontractors at the site.
- b. Numerical count of personnel at the site by tradecraft or subcontractor.

- c. A list of all construction equipment on site.
- d. High and low temperatures, general weather conditions.
- e. Accidents (provide specific accident information reports).
- f. Meetings and significant decisions.
- g. Work performed by location, description and firm
- h. Quality control inspections, tests and records.
- i. Unusual events.
- j. Stoppages, delays, shortages, losses.
- k. Emergency procedures taken.
- l. Inspection results or requests of governing authorities.
- m. Changes received, implemented.
- n. Services connected, disconnected.
- o. Equipment or system tests and start-ups.
- p. Any partial or substantial completions, occupancies.
- q. Quantity measurements, weight tickets or invoices to document pay items.

The Contractor shall prepare a daily construction report, recording the information concerning events at the site and submit copies to the Designer or Owner, by noon of the following workday (electronic format is acceptable). Each daily report is to be certified * signed by the authorized Contractor representative as to the facts, accuracy and completeness of the information in the daily report.

A copy of the Contractor's proposed daily report format is to be provided to the Designer or Owner for approval prior to construction.

45. GUARANTEE AND CORRECTION OF WORK

The Contractor shall guarantee all Work to have been accomplished in conformance with the Contract Documents. Neither the final payment application nor any provision of the Contract Documents, nor partial or entire occupancy or use of the Work by the City, shall constitute an acceptance of any part of the Work not done in accordance with the Contract Documents, or relieve the Contractor of liability for incomplete or faulty materials or workmanship. The Contractor shall promptly remedy any omission or defect in the Work and pay for any damage to other improvements or facilities resulting from such omission or defect which shall appear within a period as defined in the Supplemental Conditions. In the event that the Contractor should fail to make repairs, adjustments or other remedy that may be made necessary by such defects, the City may do so and charge the Contractor the cost thereby incurred.

46. DRAWINGS AND SPECIFICATIONS

At the Notice of Contract Award, the Designer will furnish the Contractor an electronic disk or similar electronic file containing all technical contract documents. This file will include a complete set of drawing files and technical specification files which have all amendments incorporated. The disk will contain drawing files in CADD format and technical specifications in PDF format.

The electronic CADD files and the PDF files are being provided for the Contractor's use in printing hard copies of contract documents. In addition, native CADD files are provided in accordance with "AS BUILT DOCUMENTS" paragraph for the Contractor's use in developing and maintaining as-built plans.

The Contractor shall:

- 1) Check all drawings furnished immediately upon receipt;
- 2) Compare all drawings and verify the figures before laying out the work;
- 3) Promptly notify the Designer and City of any discrepancies;

- 4) Be responsible for any errors which might have been avoided by complying with paragraphs above;
- 5) Reproduce and print contract drawings and specifications as needed;
- 6) Maintain, in readable condition at his job office, one complete set of working drawings and specifications for his work, including all approved shop drawings, with such drawings and specifications made available for use by the Designer and City; and,
- 7) Maintain at the job office, a day-to-day, "as-built" record of work-in-place that is at variance with the contract documents as required in the As-Built Drawing provision of the specification.

Omissions from the drawings or specifications or the inaccurate description of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or inaccurate described details of the work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.

47. DIFFERING SITE CONDITIONS

Should the Contractor encounter subsurface or latent conditions, or both, at the site, materially differing from those shown on the drawings or indicated in the specifications or differing materially from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in this Agreement, the Contractor shall immediately, and in no event later than ten (10) days later, give notice to the Designer/ Owner of such conditions before they are disturbed. The Designer and Owner 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 Cost of the Work 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 should have been reasonably determined from any geotechnical, soils and other reports, surveys and analyses made available for the Contractor's review or that should have been reasonably discovered by the Contractor through site observations or through the performance of its obligations pursuant to this Agreement.

48. VARIATIONS IN ESTIMATED QUANTITIES

If the quantity of a unit-priced item in this contract is an estimated quantity and the actual quantity of the unit-priced item varies more than 15 percent above or below the estimated quantity, an equitable adjustment in the contract price for such item shall be made upon demand of either party. The equitable adjustment shall be based upon any increase or decrease in costs due solely to the variation above 115 percent or below 85 percent of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Contractor may request, in writing, an extension of time, to be received by the Designer/ Owner within 10 days from the beginning of the delay. Upon the receipt of a written request for an extension, the Designer/ Owner shall ascertain the facts and, if justified, make an adjustment for extending the completion date.

49. WARRANTY OF CONSTRUCTION

The Contractor shall unconditionally warrant materials and workmanship against defects arising from faulty materials, faulty workmanship or negligence for a period of twelve (12) months following the date of final acceptance of the work or date of beneficial occupancy and shall replace such defective materials or workmanship without cost to the Owner.

If the Owner takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Owner takes possession.

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The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to owned or controlled real or personal property, when that damage is the result of--

- (1) The Contractor's failure to conform to contract requirements; or
- (2) Any defect of equipment, material, workmanship, or design furnished.

The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

The Owner shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage. If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall--

- (1) Obtain all warranties that would be given in normal commercial practice;
- (2) Require all warranties to be executed, in writing, for the benefit of the Owner,
- (3) Enforce all warranties for the benefit of the Owner, if directed by the Owner.

Where items of equipment or material carry a manufacturer's warranty, or an extended warranty required by the specifications, for any period in excess of twelve (12) months, then the manufacturer's warranty or extended warranty shall apply for that piece of equipment or material. The Contractor shall replace such defective equipment or materials, without cost to the Owner, within the manufacturer's warranty period.

Additionally, the Owner may bring an action for latent defects caused by the negligence of the Contractor for defects which are hidden or not readily apparent to the Owner at the time of beneficial occupancy or final acceptance, whichever occurred first, in accordance with applicable law.

50. CONTRACTOR EVALUATION

The Contractors overall Work performance on this project shall be fairly evaluated by the Owner and the Designer for determining qualifications to bid on future City projects. In addition to the final evaluation, interim evaluations may be prepared during the progress of the project. The Owner may also request the Contractor's comments to evaluate the Designer's performance.

Proposal by: _____ (Contractor)

Signature/Engineer of _____

Authorization for Debit/Credit to be applied to Owner's Contingent _____ Ag. wu

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in the City of Raleigh

SUPPLEMENTARY GENERAL CONDITIONS

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Attachments

- a. Sales Tax Form
- b. Stored Materials Form

1. EMERGENCY CONTACTS

The Contractor shall provide by letter names, telephone numbers and addresses of two responsible company representatives prior to beginning work. These two representatives are to be capable and authorized to respond to emergencies, so which arise during the project, nights, holidays or week-ends. The Contractor, by submitting these person's names, certifies that at least one representative will be available for on call emergency response at all times.

2. OPERATIONS OF OWNER'S FACILITIES

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 Owner. The Contractor shall control his operations and those of his Subcontractors and all suppliers, to assure the least inconvenience to the public. Under all circumstances, safety shall be the most important consideration.

- (b) The Owner will occupy the site and existing building during construction except as herein noted. Cooperate with the Owner to minimize conflicts and facilitate owner usage. Perform the work so as not to interfere with the Owner's operations.
- (c) The Owner reserves the right to occupy and place and install equipment in selected construction areas prior to Substantial Completion without accepting the Work in total.

3. DISPOSAL OF WASTE MATERIALS FROM ANY CONSTRUCTION.

Disposal of all waste material from construction sites shall be made in strict accordance with all State laws and City ordinances pertaining to disposal of construction or hazardous waste. It shall be the responsibility of the Contractor to secure the necessary permits and provide all information required to secure said permits. The Contractor shall designate the disposal site prior to beginning construction and in the event waste material is to be disposed of on private property a letter from the property owner shall be furnished the Owner's Representative granting the Contractor or his agent such permission and listing the requirements made by the property owner on the Contractor, if any.

4. DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (FOR APPLICABLE PROJECTS WITH FTA FUNDING)

The State of North Carolina has established a Disadvantaged Business Enterprise (DBE) program in accordance with regulations of the Federal Transit Administration (FTA), 49 CFR Part 26. The City of Raleigh has received Federal financial assistance from the Federal Transit Administration, and as a condition of receiving this assistance, the City of Raleigh has signed an assurance that it will comply with 49 CFR Part 26.

It is the policy of the City of Raleigh to ensure that DBEs are defined in part 26, have an equal opportunity to receive and participate in Federal and FTA-assisted contracts. It is also our policy:

- 1. To ensure nondiscrimination in the award and administration of FTA - assisted contracts;
- 2. To create a level playing field on which DBEs can compete fairly for FTA-assisted contracts;
- 3. To ensure that the DBE Program is narrowly tailored in accordance with applicable law;
- 4. To ensure that only firms that fully meet 49 CFR Part 26 eligibility standards are permitted to participate as DBEs;
- 5. To help remove barriers to the participation of DBEs in FTA assisted contracts;

6. To assist the development of firms that can compete successfully in the market place outside the DBE Program.

Richard Vinsion (Richard.vinson@raleighnc.gov) has been delegated as the Transportation Dept/Transit Division DBE Liaison Officer. Richard Vinson is responsible for implementing all aspects of the DBE program. Implementation of the DBE program is accorded the same priority as compliance with all other legal obligations incurred by the City of Raleigh in its financial assistance agreements with the Department of Transportation.

In soliciting DBE participation, the Contractors should utilize the Directory of Firms at <https://www.ebs.nc.gov/VendorDirectory/default.html>. This is a real-time consolidated list of firms that have been certified through North Carolina's Unified Certification Program as Disadvantaged Business Enterprises (DBE), Airport Concession Disadvantaged Business Enterprises (ACDBE), Small Professional Services Firms (SPSF), Minority Business Enterprises (MBE), Woman Business Enterprises (WBE), and/or Small Business Enterprises (SBE).

Forms and instructions to be provided with bids are included at the end of this section as Attachments.

5. ACCIDENT PREVENTION

To supplement the provisions as outlined in the Contract, the Contractor shall provide all necessary safety measures for the protection of all persons on the project, including the requirements outlined in the Contract, the A.G.C. *Accident Prevention Manual in Construction*, as amended, and shall fully comply with all state laws or regulations, the North Carolina State Building Code and other requirements to prevent accident or injury to persons on or about the location of the work. The Contractor shall clearly mark or post signs warning of hazards existing, and shall barricade excavations, elevator shafts, stairwells and similar hazards. The Contractor shall protect against damage or injury resulting from falling materials and he shall maintain all protective devices and signs throughout the progress of the work.

The Contractor shall adhere to the rules, regulations and interpretations of the Department of Labor relating to Occupational Safety and Health Standards for the Construction Industry (Title 29, Code of Federal Regulations, Part 1926, *Federal Register*), and revisions thereto.

The Contractor shall designate a responsible member of his organization as safety inspector, whose duties shall include accident prevention on the work project. The name of the safety inspector shall be made known to the Designer and Owner's Representative at the time the work is started.

6. PRECONSTRUCTION PHOTOS/VIDEO

The Contractor shall document pre-existing conditions on the project site and submit the photos / video in electronic format. The intent of these photos / video is to document the project conditions such as the pavement and driveways; the condition of the curb & gutter; the condition of the adjoining site boundary; installed improvements and drainage; the condition of the grassing; the condition of any structures and other improvements prior to the start of construction.

The Contractor may also include any pre-existing conditions it wants brought to the attention of the Designer and Owner by including notes and time position on the index sheet. The documentation must be submitted before mobilization to the site.

7. PROGRESS PHOTOS

The Contractor shall document construction on the project with weekly photographs. Photographs shall be digital with resolution equivalent to a 3-inch by 5-inch color photograph. Photos shall be submitted to the Owner digitally. Any information the Contractor wishes to describe regarding the progress photos

shall be accompanied with a detailed description and date. Progress photos shall be provided for each payment request submitted by the Contractor. Progress photos may also be provided with daily reports.

8. NCDOT BONDING

The Contractor is advised that North Carolina Department of Transportation may require a performance and indemnity bond for some portions of roadway that the Contractor may utilize in performance of this project. The Contractor should verify any such provisions with the NCDOT prior to bidding. Such bonding is in addition to the bonding required by the City. No separate payment for this bonding will be provided by the Owner, the Contractor is responsible for the cost of all such bonding.

9. SANITARY FACILITIES

The Contractor shall furnish, install, and maintain ample sanitary facilities for the workers. As the needs arise, a sufficient number of enclosed temporary toilets shall be conveniently placed as required by the sanitary codes of the State and City of Raleigh. Drinking water shall be provided from an approved source, so piped or transported as to keep it safe and fresh and served from single service containers or satisfactory types of sanitary drinking stands or fountains. All such facilities and services shall be furnished in strict accordance with existing and governing health regulations. No separate payment will be made for providing these

10. CONTRACTOR LICENSE/PRIVILEGE LICENSE

All invited bidders and contractors shall be advised that those who submit formal bids on this project must be licensed in the State of North Carolina, in accordance with GS 87-10, and shall be advised that they must show evidence of a current license issued by the North Carolina Licensing Board for General Contractors.

The contractor shall provide evidence of current privilege license.

11. MATERIAL TICKETS

For all work to be paid based on the basis of a material quantity, the Contractor shall turn in all material tickets from the source of supply for the purpose of payment to the Owner on a daily basis. Such tickets shall be totaled by the Contractor and included on the Contractor's daily report of construction.

12. UTILITY LOCATES

Utilities as shown on the plans are intended to represent general locations only. It shall be the responsibility of the Contractor, prior to construction, to contact appropriate utility companies and utility locates and precisely locate any utilities (both horizontally and vertically) which could be affected by the proposed construction. The Contractor shall be responsible for repair of any damage to the utilities as well as any other damage which may be caused due to the disturbance of the utilities.

If required for construction, the Contractor shall dig sample hand holes to uncover the utility. The digging of sample hand holes shall be coordinated with the Designer and Owner who assist the Contractor to determine the number and location of such holes. There is no line item to pay for such located work, this work is considered incidental to other pay items.

13. NCDOT ENCROACHMENT

On State maintained roads, the NCDOT will issue a encroachment agreement for the project. If encroachment agreement has not been issued at the time of bid opening, the Contractor will be required to incorporate all NCDOT standard encroachment requirements in their base bid for the various items in the contract. No separate payment will be made for work required in accordance with the standard

encroachment agreement. Any major deviations from the approved plans and specifications required to comply with the final encroachment agreement will be identified by Addendum before bids are opened, or by change order after contract award, if required.

14. EROSION CONTROL MAINTENANCE AND CONSTRUCTION METHODS

The provisions and requirements of the erosion control permit will be in accordance with City and State standards and specifications for soil erosion and sediment control. Soil erosion control measures shall be installed as described prior to any land disturbing work being done. All erosion control measures must be maintained so that they prevent soil erosion and sediment losses throughout the project, and will remain in place until the denuded areas are stabilized and the permanent seed has germinated. The entrapped sediment from all temporary measures shall be removed before 50% of the original sediment storage capacity has been depleted.

The Contractor shall schedule and conduct construction activities in a manner that will minimize soil erosion and the resulting sedimentation and turbidity of surface waters. The Contractor shall comply with the requirements herein regardless of whether or not a National Pollution Discharge Elimination System (NPDES) permit for the work is required.

Should the Contractor propose to utilize construction methods (such as temporary structures or fill in waters and/or wetlands for haul roads, work platforms, cofferdams, etc.) not specifically identified in the permit (individual, general, or nationwide) authorizing the project it shall be the Contractor's responsibility to coordinate with the Designer to determine what, if any, additional permit action is required. The Contractor shall also be responsible for initiating the request for the authorization of such construction method by the permitting agency. The request shall be submitted through the Designer. The Contractor shall not utilize the construction method until it is approved by the permitting agency.

15. CITY OF RALEIGH STANDARDS

Any work defined to follow the City of Raleigh Standards shall follow the City of Raleigh Water & Sewer Construction Specifications and City of Raleigh Street Construction Specifications. These are available from the City of Raleigh website.

16. ESTIMATED QUANTITIES

Contract prices submitted by the Contractor in the Proposal shall be full compensation for all labor, materials, equipment, tools, specialties, and incidentals necessary for the Contractor to fully complete the Work as shown on the Drawings and specified in the Contract Documents to be performed under this Contract.

Estimated quantities stipulated in the Proposal or other parts of the Contract Documents are solely for the purpose of comparing the bids received for the Work and determining an initial contract price.

1. The actual quantities of work done and materials furnished can differ from the estimated quantities shown in the Proposal.
2. The final contract price will be based upon the final quantities of pay items incorporated into the Work adjusted by these Contract Documents.

The method of measurement and computations used in determining the quantity of the various pay items incorporated into the work will be those methods generally recognized as accepted engineering practice. Adjustments in unit price or time for variations in quantities are subject to the Contract General Provisions entitled Variations in Estimated Quantity.

Any work required for which an estimated quantity and unit price has not been provided in the Contract Documents shall be considered incidental and separate payment will not be provided.

17. TEMPORARY CONSTRUCTION FACILITIES

The Contractor shall prepare a site plan indicating the proposed location and dimensions of any area to be fenced and used by the Contractor for temporary office area, the number of trailers to be used, avenues of egress to the fenced area and details of the fence installation. Temporary utility services shall also be located on the plan. Any areas which may have to be graveled to prevent the tracking of mud and location of any construction entrances shall also be identified. The Contractor shall also indicate if the use of a supplemental, material storage or other staging area is desired.

The Contractor shall, at its own expense, construct access and haul roads necessary for proper prosecution of the work under this contract. The Contractor shall provide necessary lighting, signs, barricades, and distinctive markings for the safe movement of traffic. The method of dust shall be adequate to ensure safe operation at all times.

The Contractor shall be responsible for the security of its own facilities and equipment. In addition, the contractor shall notify the appropriate law enforcement agency of any requested periodic security checks of the temporary project field office. Areas used by the Contractor for the office area and storage of equipment or material, or other use, shall be restored to the original or better condition.

18. BULLETIN BOARD AND PROJECT SIGN

The Contractor shall install, in a conspicuous location, the project bulletin board immediately upon beginning of work under this contract. The board shall provide a weatherproof glass-covered bulletin board not less than 36 by 48 inches in size, for displaying the equal employment opportunity poster, any wage decision and wage rates that may be required by the contract, safety and emergency contact information and other information.

If a project sign is required, the Contractor shall furnish, erect, and maintain the project sign in the location approved by the Designer and Owner. Upon completion of work under this contract, the bulletin board and project sign shall be removed from the job site and shall remain the property of the contractor.

19. MOBILIZATION AND DEMOBILIZATION (if used based on project specifications)

The total cost bid for mobilization and de-mobilization, when a unit price is provided for in the bid proposal form, is not to exceed five (5) percent of the total contract bid. All costs for mobilization and de-mobilization shall be included in the contract unit price. There shall be no additional compensation for mobilization and no adjustments to the unit prices based on changes in the scope of work, including, but not limited to, any additions to the work on the contract. The Contractor will be paid in increments based on the status of the actual mobilization effort up to seventy-five (75) percent of the total bid cost. An amount equal to twenty-five (25) percent of the total mobilization cost shall be withheld until the completion of punch-list items and removal of all equipment and temporary construction for project demobilization is complete. the breakdown of this bid item is as follows:

• Mobilization – Equal installments to reflect	-	a total of 75%
• Demobilization and completion of punch list	-	<u>a total of 25%</u>
Total		100%

Any amount that the contractor has bid in excess of the amount noted above will be retained by the Owner and paid on the final payment estimate.

20. TRAFFIC CONTROL

Work and access may be restricted as noted in the contract. Work hours may vary depending on traffic conditions and constraints. Traffic control plans may be required as required in the contract. Notice may be required to the County, City or NCDOT.

It is the Contractor's responsibility to provide all necessary traffic control and signage and provide for maintenance of traffic for the work associated with this project. The cost for this work is to be included in the bid item included in the contract or in the existing unit prices or contract amount if no bid item is included. Traffic control shall be provided in accordance with the current edition of the Manual of Uniform Traffic Control Devices and appropriate City and North Carolina Department of Transportation Requirements.

21. MAINTENANCE OF AS-BUILT RECORD DRAWINGS

Absent of a more specific contract requirement elsewhere in the Contract Documents, the contractor shall maintain and mark-up a reproducible set of prints at the project site to show as-built conditions. This set of prints shall become the record drawings and shall be kept current and available for review by the Designer and Owner at all times. All changes from the contract drawings which are made in the work, or additional information which might be uncovered during the construction, including uncharted utilities, shall be accurately and neatly recorded as they occur by means of details and notes to the drawings. All changes and/or required additions to the preliminary record drawings shall be clearly identified in a contrasting color and which is compatible with reproduction of the preliminary record drawings.

The record drawings shall be updated by no less frequently than weekly during the construction. Measurements shall be shown for all change of direction points and all surface or underground components such as valves, manholes, drop inlets, cleanouts, meter, etc. The general depth range of each underground utility line shall be shown or installation detail referenced (i.e., 3 to 4 feet in depth). The description of exterior utilities includes the actual quantity, size, and material of utility lines. Any request for information and / or Designer instructions that depict revisions to the record drawings shall be identified.

The correct grade or alinement of roads, structures or utilities if any changes were made from contract drawings shall be noted. Correct elevations, if changes were made in site grading, shall be noted. Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor, including but not limited to fabrication, erection, installation plans and shop drawings shall be noted. The location and dimensions of any changes within the building or structure shall be noted.

As a condition of each payment request, the Contractor and Designer shall verify that as built drawing conditions are being maintained. If the Contractor fails to maintain the as-built drawings as required herein, the Owner may deduct an amount representing the estimated monthly cost of maintaining the as-built drawings from the monthly progress payment. Retainage for the final as-built drawings in the amount of one (1%) of the construction value, or \$30,000, whichever is the greater, shall be withheld until the final as-built drawing submittal has been approved.

22. RECORD DRAWINGS FOR SUBSTANTIAL COMPLETION

The Contractor shall provide a marked-up copy of the currently maintained set of record drawings to the Designer for review prior to scheduling the substantial completion inspection. The Designer shall verify that the submitted drawings provide sufficient information for the Owner to adequately operate and maintain the project until the final approved set of as built drawings are provided. If acceptable, at the time of the substantial completion inspection, the Contractor shall deliver a copy of these record drawing for the Owner's use until the final approved as-built record drawings are provided.

23. FINAL CLEANING

Final cleaning of the premises shall be left broom clean. Stains, foreign substances, and temporary labels shall be removed from surfaces. carpet and soft surfaces shall be vacuumed. equipment and fixtures shall be cleaned to a sanitary condition. Filters of operating equipment shall be replaced. Debris shall be removed from roofs, drainage systems, gutters, and downspouts. Paved areas shall be swept and landscaped areas shall be raked clean. The site shall have waste, surplus materials, and rubbish removed. The project area shall have temporary structures, barricades, project signs, and construction facilities removed. A list of any uncompleted clean-up items shall be submitted on the day of final inspection.

24. SUBMISSION OF OPERATIONS AND MAINTENANCE DATA

Absent of a more specific contract requirement elsewhere in the Contract Documents, the contractor shall submit Operation and Maintenance (O&M) Data specifically applicable to this contract. The Contractor shall provide a complete and concise depiction of the provided equipment, product, or system. Organize and present information in sufficient detail to clearly explain O&M requirements at the system, equipment, component, and subassembly level. Include an index preceding each submittal.

The format of the O&M Data shall general follow the following outline and include sufficient information to adequately depict the information:

- a. Safety precautions for operation of the equipment.
- b. Normal operation procedures.
- c. Emergency operations procedures.
- d. Environmental conditions specific for the equipment.
- e. Required lubrication data.
- f. Preventive maintenance plan and schedule for the equipment.
- g. Troubleshooting guides and diagnostic techniques to be used.
- h. Wiring diagrams and control diagrams.
- i. Maintenance and repair procedures.
- j. Removal and replacement instructions.
- k. Spare parts and source of supply list.
- l. Completed warranty information.
- n. Testing equipment and special tools required shall be provided.
- o. Installing contractor information.

The Contractor O&M data shall include a list that includes the name, address, and telephone number of the general contractor and each subcontractor who installed the product or equipment, or system. For each item, also provide the name address and telephone number of the manufacturer's representative and service organization most convenient to the project site. Adequate training shall be provided to the Owner to properly operate and maintain the equipment. O&M Data shall be available to the Owner for reference during the training.

25. CONTRACT CLOSEOUT ACTIVITIES

Contract closeout activities such as, but not limited to, providing Operation and Maintenance manuals, conducting all Owner training, providing final as-built record drawings, conducting warranty completion requirements, providing equipment warranty completion, final shop drawing submittals, removal of temporary construction facilities and final cleaning are subsidiary activities of the contract work. Separate payment will not be made for any activity unless otherwise specified. Final contract payment will not be made until completion and approval of all contract closeout activities.

26. SALES TAX

North Carolina Sales Tax and Use Tax and Local Option Sales and Use Tax do apply to materials entering into Municipal Work (N.C. Sales and Use Tax Regulations No. 42 & 57, Paragraph A), and such costs shall be included in the bid proposal and contract sum.

The procedures for reporting sales taxes paid by the contractor are as follows:

1. (a) It shall be the general contractor's responsibility to furnish the owner documentary evidence showing the materials used and sales tax paid by the general contractor and each of his sub-contractors and where paid. Any county sales tax included in the contractor's statements must be shown separately from the state sales tax. If more than one county is shown, each county shall be listed separately.

- (b) The documentary evidence shall consist of a certified statement, by the general contractor and each of his subcontractors individually, showing total purchases of materials from each separate vendor and total sales taxes by each county paid each vendor. The certified statement must show the invoice number (s) covered and inclusive dates of such invoices. State sales tax shall be listed separately from county sales tax. If more than one county is shown, each county shall be listed separately.
 - (c) Materials used from general contractor's or sub-contractor's warehouse stock shall be shown in a certified statement at warehouse stock prices.
 - (d) The general contractor shall not be required to certify the sub-contractor's statements.
 - (e) The documentary evidence to be furnished to owners eligible for sales or use tax refunds covers sales and or use taxes paid on building materials used by contractors and sub-contractors in the performance of contract with churches, orphanages, hospitals not operated for profit and other charitable or religious institutions or organizations not operated for profit and, incorporated cities, towns, and counties in this State. The documentary evidence is to be submitted to the above-named institutions, organizations and governmental units to be included in claims for refunds to be prepared and submitted by them to obtain refunds provided by G. S. 105-164.14 (2) and (3) of the 1961 Statute and is to include the purchases of building materials, supplies, fixtures and equipment which become a part of or annex to buildings, or structures being erected, altered or repaired under contract with such institutions, organizations, or governmental units.
2. The contractor is advised that all requests for payment, partial or final, for work completed under this contract must include a sales tax report submitted in accordance with the procedures outlined above.

North Carolina Sales Tax
(Paid During This Estimate Period)

Project: _____ Project Location: _____ County Pay Estimate Number: _____

Contractor: _____ Period Ending: _____

Date	Vendor	Invoice Number	Invoice Amount	State Tax	County Tax	Transit Tax	Total Tax	County
TOTALS								

I certify that the above listed vendors were paid sales tax upon purchases of building materials during the period covered by the construction estimate, and the property upon which such taxes were paid with or will be used in the performance of this contract. No tax on purchases or rentals of tools and/or equipment is included in the above list. All of the material above became a part of or is annexed to the building or structure being erected, altered or repaired.

_____ County, North Carolina

Signed and sworn to (or affirmed) before this day by _____

(name of principal)

(signature of principal)

Date: _____

Notary Public's Signature

(Notary's printed or typed name, Notary Public)

(Official Seal)

My commission expires:

GoRaleigh Station Curb and Pavement Marking Repair Spec

Background

GoRaleigh Station (GRS) is located at 214 S Blount Street Raleigh, NC 27601. The bus platforms are located between East Martin Street and E Hargett St, and are referenced to as platforms A, B, C, D, and E. It serves as a transfer center for our bus fleet to pick up, drop off, and transfer roughly 10,000 passengers daily. GoRaleigh operates a fleet of nearly 100 buses. The 39,000-pound busses enter and exit the site over 1,000 times per day.

Issue

We are currently having a lot of failure with the curb and gutter adjacent to these platforms. The original specifications for the curb and gutter were not adequate to support the weight and frequency of the busses. We need to cut out, remove, and replace roughly 950 linear feet of curb and gutter, while still allowing traffic to flow within the site.

1. **Concrete Curb and Gutter** – All concrete must be Class K. Repairs should be the full depth of the adjoining concrete pavement. Concrete shall have a minimum compressive strength of 2500 psi at 8 hours. A minimum compressive strength of 3000 at 24 hours and a minimum compressive strength of 4000 at 28 days. Busses will need to run on the new pavement within 48 hours of pouring the new concrete.
 - a. Saw cut, demolish, and remove the broken curb. The curb is integral with the pavement; a saw cut shall be made at the edge of the gutter. Clean the remaining surface, including any exposed reinforcing steel. Apply finished concrete and trowel to match the adjacent curb.
 - b. Compact subgrade and enhance as necessary to provide for 10" thick gutters. Supply and fix one layer of re-bar, consisting of #5 bars at 12" centers. Supply, spread, and compact concrete. Float, brush, finish, and apply Rite Cure or similar.
 - c. Contractor will provide proper reflective warning signage and barricading to prevent personal injury and vehicle damage during construction.
 - d. Contractor will supply all material necessary to ensure the subbase meets the NCDOT roadway specifications.
 - e. No concrete will be poured in areas holding water.
 - f. Contractor will saw cut and seal all joints with appropriate materials to ensure water tightness during expansion and contraction of concrete at all designated expansion joints, stress cracks, storm drains, and cold joints.
 - g. Contractor will coordinate its construction to accommodate the on-going 24-hour nature of the bus ingress and egress of the specified area.
 - h. No debris shall be left onsite during or after the construction. All debris must immediately be loaded and removed from the site during construction.
 - i. Platform A – roughly 142 linear feet to be replaced.
 - j. Platform B – roughly 146 linear feet to be replaced.
 - k. Platform C – roughly 194 linear feet to be replaced.
 - l. Platform D – roughly 395 linear feet to be replaced, and a 12' x 10' section of sidewalk.
 - m. Platform E – roughly 50 linear feet to be replaced.

The above are estimated numbers of areas that have currently settled. It will be up to the contractor to take actual measurements to ensure all areas that are failing and settling are to be replaced.

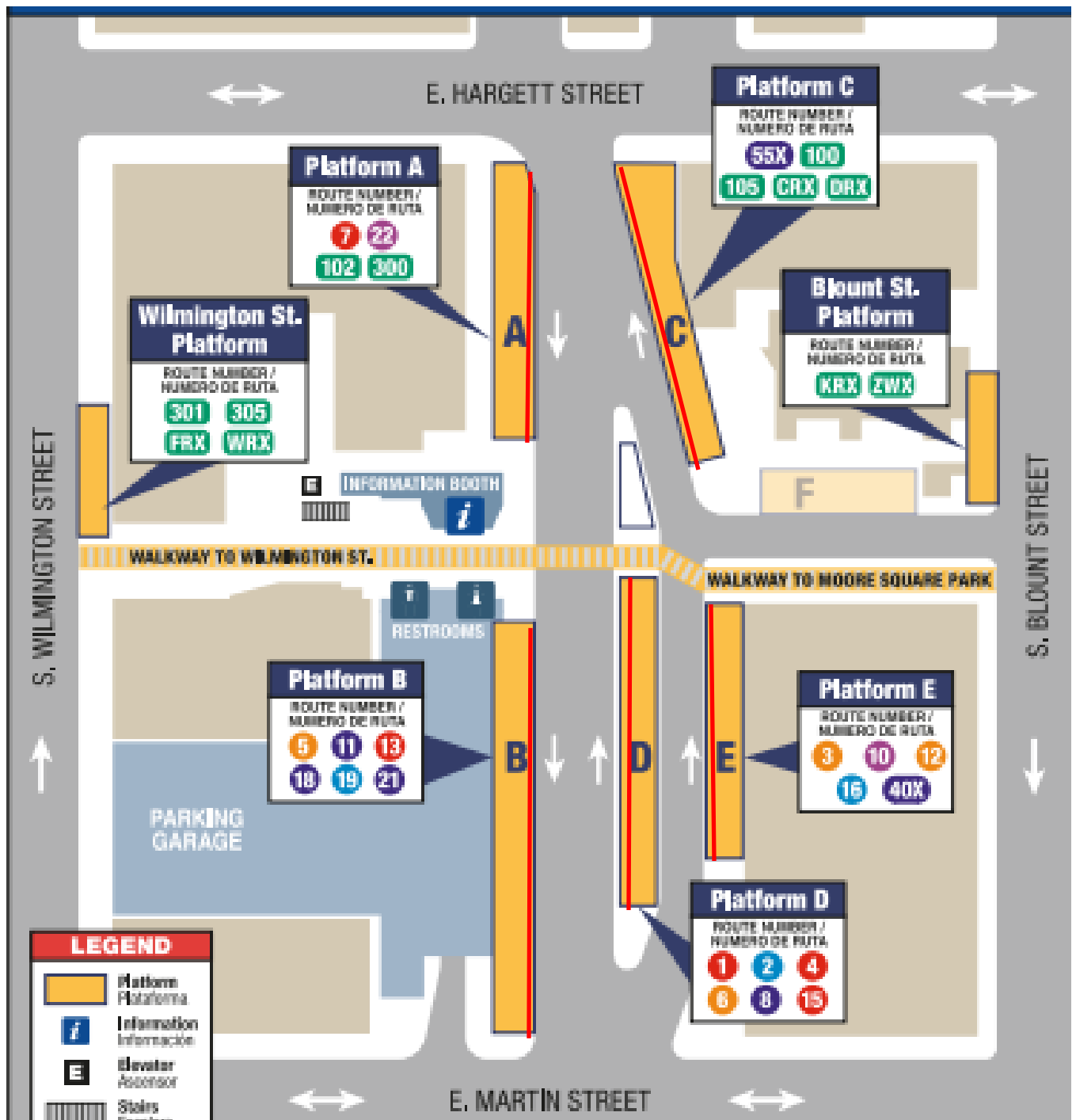
2. **Pavement Markings** – All Geothermal pavement markings should be installing according to section 1205 of the North Carolina Department of Transportation Raleigh Standards Specifications for Roads and Structures.
 - a. All existing Geothermal pavement markings should be removed, the area properly cleaned, and new geothermal markings should be installed to include but not limited to, traffic arrows, "Bus Only" at the entrances and exits, lines, and hashmarks.
 - b. We want to add a line 12" back from the face of curb, with markings that say "Caution Please

Updated 11.23.21

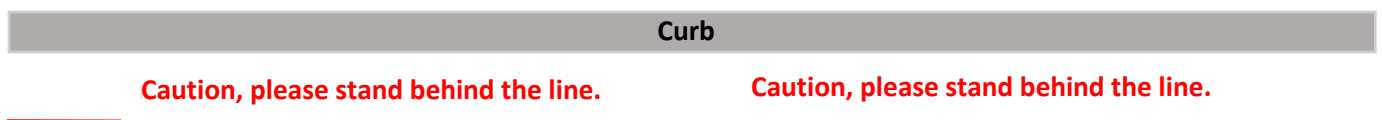
Stand Behind the Line”

- i. This will help prevent people standing too close to the curb when a bus pulls up to the platform.

PLEASE SEE BELOW DOCUMENTS FOR FURTHER SPECS



Stripe back from the curb on Platform A, B, C, D, and E with red paint. “Stencil the words Caution, please stand behind the line.” In bold red letters a minimum of 4 inches tall.





Item	date

BUY AMERICA PROGRAM REQUIREMENTS

ALL PRODUCTS USED ON THIS PROJECT MUST BE MANUFACTURED IN COMPLIANCE WITH THE BUY AMERICA PROGRAM FOR FEDERALLY FUNDED TRANSPORTATION PROJECTS PER CODE OF FEDERAL REGULATIONS 49 CFR 601. THESE REQUIREMENTS ARE DISTINCT AND DIFFERENT FROM THOSE OF THE BUY AMERICAN ACT OF 1930.

sheet title

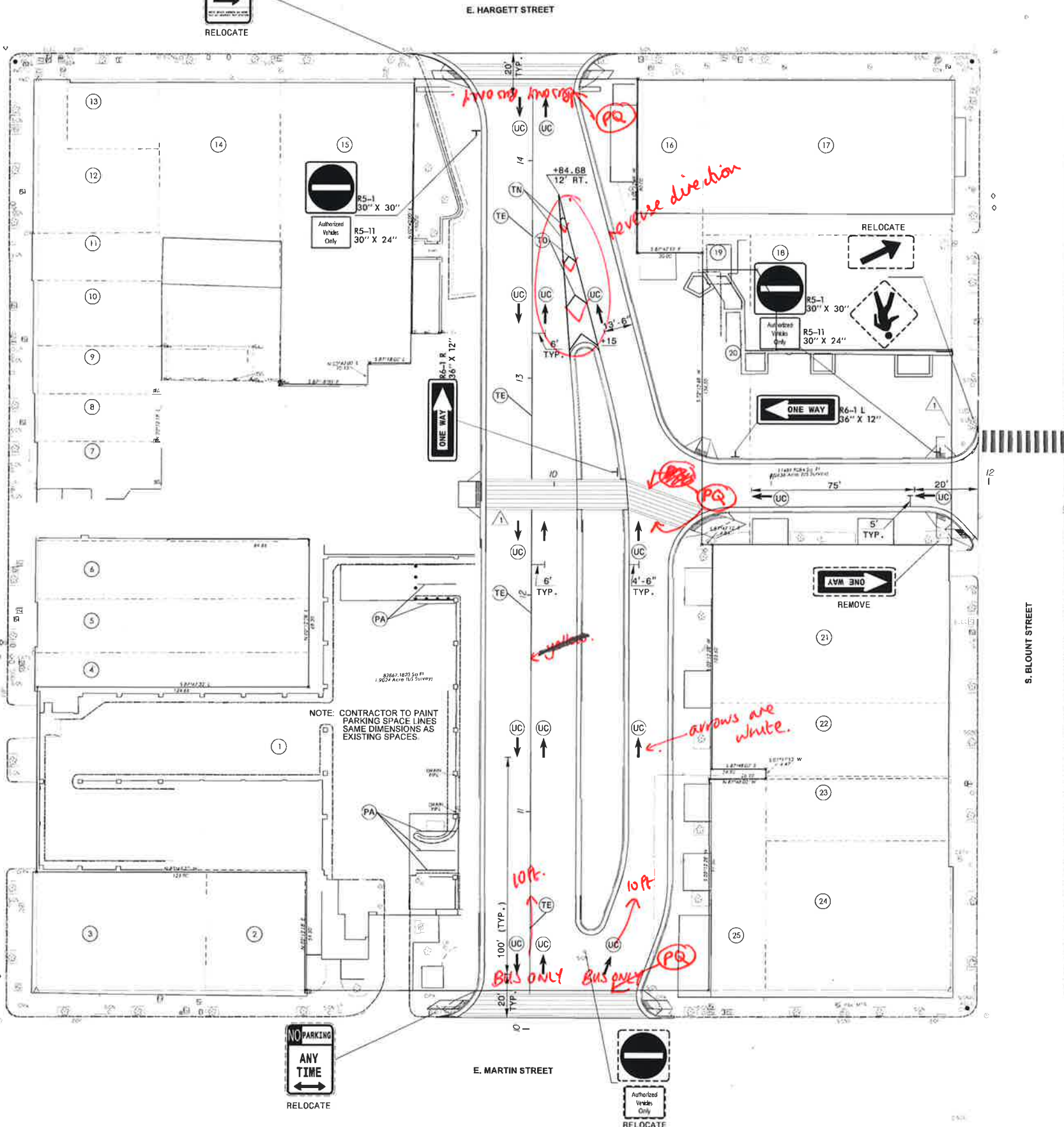
**SITE SIGNING
AND MARKING
PLANS**

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
(P3)	WHITE CROSSWALK LINE (24")
(PA)	WHITE EDGELINE (4")
(TE)	WHITE SOLID LANE LINE (4", 120 MIL)
(TN)	WHITE GORELINE (8", 90 MIL)
(TD)	WHITE DIAGONAL (8", 90 MIL)
(UC)	STRAIGHT ARROW (90 MIL)

QA 1
(PQ) WHITE CROSSWALK LINE (8")

S. WILMINGTON STREET



*revised
4/27/2017*

Section 1205

1205-4 THERMOPLASTIC (ALKYD/MALEIC)

(A) Application Equipment

(1) General

Use application equipment constructed to assure continuous uniformity in the thickness and width of the thermoplastic pavement marking. Use application equipment that provides multiple width settings ranging from 4 inches to 12 inches and multiple thickness settings to achieve the pavement marking thickness ranging from 0.090 inch to 0.120 inch. Special thickness equipment may be required for in lane or shoulder transverse rumble strip pavement markings.

Do not use spray thermoplastic unless approved by NCDOT's Signing and Delineation Unit.

(2) Premelting Kettle

Use equipment to install hot thermoplastic pavement marking material that includes an oil-jacketed or air-jacketed premelt kettle for uniform heating and melting of the thermoplastic material. Use a kettle that is equipped with an automatic thermostat control device to provide positive temperature control and continuous mixing and agitation of the thermoplastic material. Do not premelt thermoplastic material in handliner type equipment.

(3) Applicator Storage Kettle

Equip long line pavement marking vehicles with an automatic thermostat control device to maintain the thermoplastic material at the application temperature and provide continuous mixing and agitation of the thermoplastic material during installation. Construct the equipment so that all mixing and conveying parts, up to and including the application apparatus, maintains the thermoplastic pavement marking material at the specified installation temperature and which has a capacity of at least 1,500 lbs. of molten thermoplastic pavement marking material. Hand transfer is not allowed.

Handliner type application vehicles may contain the premelting and applicator storage functions in the same kettle. Agitation and mixing can be done manually. Drag box type and bucket type application is not allowed.

Use premelting and applicator storage kettles that meet the requirements of the National Board of Fire Underwriters, the National Fire Protection Association and State and local authorities.

(B) Weather Limitations and Seasonal Limitations

Do not apply thermoplastic pavement markings on existing or new pavements unless the ambient air temperature and the temperature of the pavement is 50°F or higher.

Do not apply thermoplastic pavement markings between the dates specified below:

East of I-95	December 15 and the following March 16
East of I-77 to and including I-95	November 30 and the following April 1
West of and including I-77	November 15 and the following April 16

Exception to the above: When traffic is maintained on a portion of roadway and thermoplastic pavement marking will not be placed within 30 calendar days due to seasonal limitations, place pavement marking paint and beads in accordance with Subarticle 1205-8(C).

1 **(C) Application**

2 Use only thermoplastic markings that are of the hot, machine applied type. Apply
3 alkyd/maleic thermoplastic pavement markings by extrusion methods only. Extrusion
4 may be accomplished using either conventional extrusion equipment or ribbon gun
5 extrusion devices.

6 The stem portion of straight arrows shall be applied in a single pass and the stem portion
7 of turn arrows is to be applied in no more than 2 passes of the application equipment.
8 Arrowheads may be applied by multiple passes of the application equipment, not to
9 exceed 3 passes.

10 Apply drop-on beads and/or highly reflective media uniformly to the surface of the
11 molten thermoplastic material so the beads and highly reflective media are partially
12 embedded and at a rate recommended by the manufacturer to obtain the minimum
13 reflectance values. For highly reflective markings, a double drop system consisting of
14 glass beads and highly reflective media is required. Produce in place markings with
15 minimum retroreflective values shown in Table 1205-2, as obtained with a Department
16 approved 30 m mobile or handheld retroreflectometer. Retroreflective measurements
17 will be taken within 30 days after final placement of the pavement marking.

**TABLE 1205-2
MINIMUM REFLECTOMETER REQUIREMENTS
FOR THERMOPLASTIC**

Item	Color	Reflectivity
Standard Glass Beads	White	375 mcd/lux/m ²
	Yellow	250 mcd/lux/m ²
Highly Reflective Media	White	800 mcd/lux/m ²
	Yellow	600 mcd/lux/m ²

18 Ensure that the marking is uniformly retroreflective upon cooling and has the ability to
19 resist deformation caused by traffic throughout its entire length.

20 A thin layer of interim pavement marking paint at the proper width may be placed before
21 installing the thermoplastic markings. If this option is chosen, when not specified in the
22 plans or by the Engineer, direct payment for the paint will not be made. Cover any such
23 thin layer of pavement marking paint with thermoplastic pavement marking within
24 30 calendar days of placement. Apply the thin layer of pavement marking paint and
25 beads at the rate necessary to produce a dry film thickness of 5 to 8 mils. Apply drop-on
26 glass beads at a rate of 1 to 3 lbs/gal of paint.

27 Provide drainage openings at intervals of 250 feet in edge lines placed on the inside of
28 curves and in edge lines on the low side of tangents. Provide openings that are no more
29 than 12 inches and at least 6 inches in length.

30 Produce a cross-sectional thickness of the thermoplastic markings above the surface of
31 the pavement in accordance with Table 1205-3.

**TABLE 1205-3
THICKNESS REQUIREMENTS FOR THERMOPLASTIC**

Thickness	Location
240 mils	In-lane and shoulder-transverse pavement markings (rumble strips) may be placed in 2 passes.
120 mils	Center lines, skip lines, transverse bands, mini-skip lines, characters, bike lane symbols and crosswalk lines.
90 mils	Edge lines, gore lines, diagonals and arrow symbols.

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(D) Observation Period

In addition to the requirements of Subarticle 1205-3(H), maintain responsibility for minimum retroreflective values for a 30-day period beginning upon the Engineer's acceptance of all markings on the project. Guarantee retroreflective values of the markings during the 30-day period under the payment and performance bond in accordance with Article 105-17.

1205-5 POLYUREA

(A) Weather Limitations and Seasonal Limitations

Do not apply polyurea pavement markings on existing or new pavements unless the ambient air temperature and the temperature of the pavement is 40°F or higher.

Do not apply polyurea pavement marking between November 15 and the following February 28 unless the surface is free from winter surface treatment applications.

(B) Application

Produce polyurea pavement marking lines that have a minimum dry thickness of 20 mils when placed on concrete and asphalt pavements. Apply 30 mils on textured surfaces such as OGFC.

Using the polyurea application equipment, apply the pavement marking materials simultaneously. Apply the polyurea resin, mixed at the proper ratio according to the manufacturer's recommendations, to the pavement surfaces within the proper application temperatures as determined by the material manufacturer. Inject reflective glass beads and highly reflective media into the molten (liquid) polyurea pavement markings. For highly reflective markings, a double drop system consisting of glass beads and highly reflective media is required.

Wait at least 15 days before applying polyurea on new asphalt. Place a thin layer of pavement marking paint at the proper width before applying the polyurea markings during the 15 day waiting period. Apply the thin layer of pavement marking paint and beads at the rate necessary to produce a dry film thickness of 5 to 8 mils. Apply drop-on beads at a rate of 1 to 3 lbs/gal of paint. Direct payment for the pavement marking paint will not be made. Cover any such thin layer of paint with polyurea pavement marking within 30 calendar days of placement. If paint is placed on concrete before applying polyurea, remove 100% of the paint before installing polyurea. Payment for the paint and removal shall be made under Article 1205-10.

Apply drop-on beads and/or highly reflective media uniformly to the surface of the polyurea material so that the beads and reflective media are partially embedded and at a rate recommended by the manufacturer to obtain the minimum reflectance values. Produce in place markings with minimum retroreflective values shown in Table 1205-4, as obtained with a Department approved 30 m mobile or handheld retroreflectometer. Retroreflective measurements will be taken within 30 days after final placement of the pavement marking.

Produce marking that, upon curing, is uniformly reflectorized and has the ability to resist deformation caused by traffic throughout its entire length.

(C) Observation Period

In addition to the requirements of Subarticle 1205-3(H), maintain responsibility for minimum retroreflective values for a 30-day period beginning upon the Engineer's acceptance of all markings on the project. Guarantee retroreflective values of the markings during the 30-day period under the payment and performance bond in accordance with Article 105-17.

**TABLE 1205-4
MINIMUM REFLECTOMETER REQUIREMENTS
FOR POLYUREA**

Item	Color	Reflectivity
Highly Reflective Media	White	800 mcd/lux/m ²
	Yellow	600 mcd/lux/m ²

1205-6 COLD APPLIED PLASTIC

(A) Application Equipment

Use mechanical application equipment, defined as a mobile pavement marking machine specifically designed for use in applying pressure sensitive pavement marking tape of varying widths up to 12 inches. Use an applicator equipped with rollers to provide initial adhesion of the preformed, pressure sensitive marking tape with the pavement surface. Symbols and legends may be tamped by hand but shall be rolled with a weighted roller as per the manufacturer's recommendations. Tamp the cold applied plastic pavement marking material with a 200 lb. weighted roller as per the manufacturer recommendations.

Surface preparation adhesive may be required depending on the type of cold applied plastic. Refer to the manufacturers' specifications before applying cold applied plastic.

Most overlay tape installations should be conducted at an ambient air temperature of 60°F and rising and a surface temperature of 70° F with an overnight temperature at least 40°F the night before application. Check the manufacturer's specifications for actual requirements. Install cold applied plastic pavement markings at ambient air temperature and pavement surface temperature per manufacturer's specifications. Wait at least 24 hours after a rain before applying cold applied plastic pavement marking.

Cold applied plastic pavement markings shall be between 15 to 90 mils thick.

(B) Types of Cold Applied Plastic

At the time of installation, cold applied plastic pavement markings shall meet Table 1205-5.

**TABLE 1205-5
REFLECTOMETER REQUIREMENTS FOR COLD APPLIED PLASTIC TAPE**

Type	Color	Reflectivity
Type 1 - Permanent Standard Tape	White	400 mcd/lux/m ²
	Yellow	300 mcd/lux/m ²
Type 2 - Permanent High Performance Tape	White	500 mcd/lux/m ²
	Yellow	300 mcd/lux/m ²
Type 3 - Permanent Wet Reflective High Performance Tape (Wet)	White	250 mcd/lux/m ²
	Yellow	200 mcd/lux/m ²
Type 3 - Permanent Wet Reflective High Performance Tape (Dry)	White	500 mcd/lux/m ²
	Yellow	300 mcd/lux/m ²
Type 4 - Removable Tape	White	700 mcd/lux/m ²
	Yellow	400 mcd/lux/m ²

Type 1 is typically a 2 year life cycle permanent tape used on roadways with an ADT of 5,000 or less.

Type 2 material may come as one piece with a black border with yellow or white in the center. Type 2 is typically a 5 year permanent tape used on roadways with an ADT greater than 5,000.

Type 3 wet reflective tape shall meet Table 1205-5 retroreflective values, both wet and dry. The value measured under wet conditions shall be measured in accordance with

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ASTM E1710 when using a portable retroreflectometer and in accordance with ASTM E2177.

(C) Observation Period

In addition to the requirements of Subarticle 1205-3(H), maintain responsibility for minimum retroreflective values for a 30-day period beginning upon the Engineer's acceptance of all markings on the project. Guarantee retroreflective values of the markings during the 30-day period under the payment and performance bond in accordance with Article 105-17.

1205-7 HEATED-IN-PLACE THERMOPLASTIC

(A) Application Equipment

Apply heated-in-place thermoplastic using a propane blow torch and other material as recommended by the manufacturer.

(B) Weather Limitations

Apply heated-in-place thermoplastic only when ambient air temperature and pavement surface temperature is 40°F and rising.

(C) Applications

Apply heated-in-place thermoplastic on asphalt or concrete per manufacturer's specifications. The manufacturer shall certify the installer of heated-in-place thermoplastic.

Use a one part primer sealer when installing heated-in-place thermoplastic on concrete.

The Contractor may choose to use heated-in-place thermoplastic symbols, characters and transverse lines instead of molten thermoplastics pavement markings.

Produce a cross sectional thickness of installed heated-in-place thermoplastic markings above the surface of the pavement after installation and upon cooling in accordance with Table 1205-3.

For initial minimum retroreflective value requirements, see Subarticle 1205-4(C).

(D) Observation Period

In addition to the requirements of Subarticle 1205-3(H), maintain responsibility for minimum retroreflective values for a 30-day period beginning upon the Engineer's acceptance of all markings on the project. Guarantee retroreflective values of the markings during the 30-day period under the payment and performance bond in accordance with Article 105-17.

1205-8 PAINT

(A) Application Equipment

The equipment to apply paint to pavements shall be a truck mounted pneumatic or airless spray machine with suitable arrangements of atomizing nozzles and controls to obtain the specified markings. Paint pavement markings application equipment shall be capable of placing double solid lines, single solid lines, intermittent skip lines or a combination of solid and intermittent skip lines in a single pass. This equipment shall also have an internal timing mechanism for measurement and controlled output of required line lengths.

The paint applicator equipment shall have at least two paint tanks with a minimum 60 gal capacity and one tank for glass beads with at least 500 lb. capacity. The spray guns used for hand held paint pavement marking application shall be operable from the application truck. All metal parts that hold or transfer paint pavement marking material shall be

stainless steel. The paint trucks shall be equipped with quick action valves. The required gauges and pressure regulators shall be conveniently located and in full view and reach of the operator. Paint strainers are required in paint supply lines.

The paint applicator shall be equipped with a dispenser for the glass beads as described in Subarticle 1205-3(B)(2). Provide a glass bead dispenser that operates automatically and simultaneously with the paint applicator through the same mechanism and that is capable of adjustment and designed to provide uniform flow over the full length and width of the stripe as specified in Subarticle 1205-3(G)(2).

Provide spray guns for hand application of detail markings, symbols and legends. A hand operated push type applicator with a glass bead dispenser may be used for radii and/or parking spaces.

(B) Weather Limitations

Apply paint only when the ambient air temperature and pavement surface temperatures are at least 40°F and rising and no more than 160°F.

(C) Application

Final pavement marking applications of paint shall be placed in 2 applications of 15 mils wet each. Apply the second application of paint upon sufficient drying time of the first. Each application of paint shall consist of drop-on beads applied at a rate to immediately obtain the minimum retroreflective values.

When paint is required by the Engineer or Traffic Control Plan for temporary pavement markings during temporary traffic patterns, apply one application of paint at 15 mils wet. If the temporary traffic pattern will last longer than 6 months, apply a second application of paint 6 months after the initial application. Additional applications of paint at 15 mils wet may be applied every 6 months as directed by the Engineer or Traffic Control Plan.

For each 15 mil application of paint, apply drop-on beads uniformly to the surface of the paint material at a rate to immediately obtain the minimum retroreflective values. At the time of installation, produce in-place markings with the minimum retroreflective values shown in Table 1205-6, as obtained with a Department approved 30 m mobile or handheld retroreflectometer. Maintain the retroreflective values shown in Table 1205-6 for at least 30 days from the time of placement of the marking material.

**TABLE 1205-6
REFLECTOMETER REQUIREMENTS
FOR PAINT**

Item	Color	Reflectivity
Standard Glass Beads	White	225 mcd/lux/m ²
	Yellow	200 mcd/lux/m ²

Make sure that the marking is uniformly retroreflectorized upon drying.

(D) Observation Period

In addition to the requirements of Subarticle 1205-3(H), maintain responsibility for minimum retroreflective values for a 30-day period beginning upon the Engineer's acceptance of all markings on the project. Guarantee retroreflective values of the markings during the 30-day period under the payment and performance bond in accordance with Article 105-17.

1205-9 MAINTENANCE

Replace pavement markings that prematurely deteriorate, fail to adhere to the pavement, lack reflectorization or are otherwise unsatisfactory during the life of the project or during the 12 month observation period as determined by the Engineer.

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Upon notification from the Engineer, winterize the project by placing an initial or additional application of paint pavement marking lines in accordance with Article 1205-8.

1205-10 MEASUREMENT AND PAYMENT

Pavement Marking Lines will be measured and paid as the actual number of linear feet of pavement marking lines satisfactorily placed and accepted by the Engineer. In addition, *Paint Pavement Marking Lines* will be paid per linear foot for each 15 mil application placed in accordance with Subarticle 1205-8(C). The quantity of solid lines will be the summation of the linear feet of solid line measured end-to-end of the line. The quantity of skip or broken lines will be the summation of the linear feet derived by multiplying the nominal length of a line by the number of marking lines satisfactorily placed.

Pavement Marking Symbols will be measured and paid as the actual number of pavement marking symbols satisfactorily placed and accepted by the Engineer. In addition, *Paint Pavement Marking Symbols* will be paid for each 15 mil application placed in accordance with Subarticle 1205-8(C).

Pavement Marking Characters will be measured and paid as the actual number of characters satisfactorily placed and accepted by the Engineer. A character is considered to be one letter or one number of a word message. In addition, *Paint Pavement Marking Characters* will be paid for each 15 mil application placed in accordance with Subarticle 1205-8(C).

Removal of Pavement Marking Lines will be measured and paid as the actual number of linear feet of pavement marking lines satisfactorily removed and accepted by the Engineer. The quantity of solid lines will be the summation of the linear feet of solid line measured end-to-end of the line. The quantity of skip or broken lines will be the summation of the linear feet derived by multiplying the nominal length of a line by the number of marking lines satisfactorily removed. No payment will be made for the removal of removable pavement marking tape.

Removal of Pavement Marking Symbols & Characters will be measured and paid as the actual number of pavement marking symbols and characters satisfactorily removed and accepted by the Engineer.

Curing Compound Removal, Lines will be measured and paid as the actual number of linear feet of pavement surface from which the curing compounds are satisfactorily removed. All other surface preparation will be incidental to the work covered by this section. Measurement will be made along the surface of the pavement.

Curing Compound Removal, Symbols & Characters will be measured and paid as the actual number of symbols and characters for which the curing compound has been satisfactorily removed. All other surface preparation will be incidental to the work covered by this section.

Payment at the contract unit price for the various items in the contract will be full compensation for all the items covered by this section. No direct payment will be made for: the work involved in applying the lines, including surface preparation; reapplication of molten pavement marking crossed by a vehicle; removal of all pavement marking materials spilled on the roadway surface; and repair of markings tracked by a vehicle.

Premarking will be incidental to other items in the contract. Unless directed by the Engineer, there will be no direct payment for interim paint. No direct payment will be made for black paint or tape.

The 5 to 8 mils of paint installed before placing the polyurea will be incidental to the work of this section.

The Contractor may choose to use heated-in-place thermoplastic symbols, characters and transverse lines instead of molten thermoplastics pavement markings and cold applied plastic at no additional cost to the Department.

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1 Replacement of pavement markings that prematurely deteriorated, failed to adhere to the
2 pavement, lacked reflectorization or were otherwise unsatisfactory during the life of the
3 project or during the 12 month observation period as determined by the Engineer will be at no
4 cost to the Department.

5 Payment for Paint Pavement Marking Lines required to winterize the project will be made in
6 accordance with Article 1205-10 except that no payment will be made on resurfacing projects
7 where paving is completed more than 30 days before the written notification by the
8 Department that winterization is required.

9 Payment will be made under:

Pay Item	Pay Unit
Paint Pavement Marking Lines, __"	Linear Foot
Thermoplastic Pavement Marking Lines, __", __ mils	Linear Foot
Polyurea Pavement Marking Lines; __", __ mils	Linear Foot
Cold Applied Plastic Pavement Marking Lines, Type ____ (____")	Linear Foot
Heated-In-Place Thermoplastic Pavement Marking Lines, __", __ mils	Linear Foot
Paint Pavement Marking Symbols	Each
Thermoplastic Pavement Marking Symbols, __ mils:	Each
Cold Applied Plastic Pavement Marking Symbols, Type ____	Each
Heated-In-Place Thermoplastic Pavement Marking Symbols, __ mils	Each
Paint Pavement Marking Characters	Each
Thermoplastic Pavement Marking Characters, __ mils	Each
Cold Applied Plastic Pavement Marking Characters, Type ____	Each
Heated-In-Place Pavement Marking Characters __ mils	Each
Removal of Pavement Marking Lines, __"	Linear Foot
Removal of Pavement Marking Symbols & Characters	Each
Curing Compound Removal, Lines	Linear Foot
Curing Compound Removal, Symbols & Characters	Each

SECTION 1250

PAVEMENT MARKERS GENERAL REQUIREMENTS

1250-1 DESCRIPTION

13 Furnish and place pavement markers in accordance with the contract.

1250-2 MATERIALS

(A) General

16 Refer to Division 10.

Item	Section
Pavement Markers	1086

(B) Material Qualifications

18 Use pavement markers that are on the NCDOT APL.