

CONTRACT FORMS and
SPECIFICATIONS
for
2024 STREET REHABILITATION &
PRESERVATION PROJECT

PROJECT NUMBER: ENG-2024-001



Find yourself in good company

CITY OF GREENVILLE, NC
ENGINEERING DEPARTMENT
1500 BEATTY STREET
GREENVILLE, NC 27834
252-329-4467

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**ADVERTISEMENT FOR BIDDERS
GREENVILLE, NORTH CAROLINA**

Sealed bids are invited and will be received by the City of Greenville Engineering Department, 1500 Beatty Street, Greenville, NC 27834 until 2:00 p.m. local time on **Tuesday, November 28, 2023 at 2:00 p.m. local time**, and immediately thereafter the sealed bids will be publicly opened and read for furnishing and constructing the following facilities:

2024 Street Rehabilitation & Preservation Project

Bids must be submitted on the complete project. Bids must be enclosed in a sealed envelope, addressed to the City of Greenville, and the outside of the envelope must be marked “2024 Street Rehabilitation & Preservation Project, Greenville, North Carolina” along with the name, address, and license number of the Bidder. All bids must be made on blank forms provided and included in the bound document or provided through subsequent addenda.

The Street Rehabilitation work will consist of full & edge milling of approximately 74,500 square yards of existing asphalt pavement, placing approximately 7,455 tons of Asphalt Concrete Surface Course, Type S 9.5B, 2,050 tons of Asphalt Concrete Base repairs/patching, ADA improvements, curb and gutter repairs, and making necessary adjustments to valves and manholes. The Street Preservation work will consist of Micro Paving 40,555 square yards, Cape Sealing 26,920 square yards, Rejuvenating 114,450 square yards and Crack Sealing 139,350 square yards of City of Greenville roads. The Project also includes the placement of thermoplastic & temporary pavement markings on several streets. The Contractor will install improvements on City of Greenville and will be subject to NCDOT associated standards and specifications.

Each bid must be accompanied by cash or a certified check, drawn on a bank of trust company authorized to do business in North Carolina, payable to the City of Greenville in an amount at least equal to five percent (5%) of the total amount of the bid, as a guarantee that a contract will be entered into. In lieu of cash or a certified check, the Bidder may submit a bid bond in the form prescribed in G.S. 143-139 as amended by Chapter 1104 of the Public Laws of 1951.

Each bid proposal must be accompanied by all appropriate forms and documentation to be considered responsive, including applicable Minority and Women Owned Business forms.

Sales tax may be listed on the proposal, but as a separate item. No charge will be allowed for Federal Excise and Transportation Tax, from which the City of Greenville is exempt.

Contractors are notified that legislative acts relating to licensing of contractors will be observed in receiving bids and awarding contracts. Firms submitting a proposal are attesting that no official or employee of the City of Greenville is directly or indirectly interested in this proposal for any reason of personal gain.

Iran Divestment Act

As a result of the Iran Divestment Act of 2015 (Act), Article 6E, N.C. General Statute § 147-86.55, the State Treasurer published the Final Divestment List (List) which includes the final companies and persons engaged in investment activities in Iran and will be updated every 180 days. The list can be found at <https://www.nctreasurer.com/inside-the-department/OpenGovernment/Pages/Iran-Divestment-Act-Resources.aspx>.

By submitting the Proposal, the firm certifies that, as of the date of this proposal, it is not on the then current List created by the State Treasurer. The firm must notify the Department of Engineering immediately if, at any time before the award of the contract, it is added to the List.

As an ongoing obligation, the firm must notify the Department immediately if, at any time during the contract term, it is added to the List. Consistent with § 147-86.59, the Contractor shall not contract with any person to perform a part of the work if, at any time the subcontract is signed, that person is on the then-current List.

During the term of the Contract, should the Department receive information that a person is in violation of the Act as stated above, the Department will take action as appropriate and provided for by law, rule or contract.

E-Verify Compliance: The Bidder shall comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes. Further, if the Bidder furnishes services, programs or goods to the City utilizing a subcontractor, the Bidder shall require the subcontractor to comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes. The Bidder represents that the Bidder and its subcontractors are in compliance with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes.

Minority and Women Owned Firms are encouraged to submit proposals. Please note that as of July 1, 2009, the City of Greenville only accepts State-certified HUB contractors to fulfill the M/WBE requirements for City funded projects.

A Pre-Bid Conference will be held at the City of Greenville's Engineering Department, 1500 Beatty Street, Greenville, North Carolina on **Tuesday, November 7th, 2023 at 2:00 p.m.** local time for all interested contractors, subcontractors, and materials suppliers.

From Friday, October 28th, 2023 until the date of bid opening, digital copies of bid documents will be available for downloading, at no cost, from the City of Greenville's website by visiting <http://www.greenvillenc.gov/government/financial-services/current-bid-opportunities> Should there be any questions, please contact John Paul Harrell, Construction Project Manager I, at (252) 329-4887 or jharrell@greenvillenc.gov.

The Successful Bidder will be required to provide a **Performance and Payment Bond** in the total aggregate penal sum equal to the total Contract Sum to complete all work established in the specifications.

The right is reserved to reject any or all bids, to waive informalities, and to award contract or contracts which, in the opinion of the Owner, appear to be in its best interest. The right is reserved to hold any or all proposals for a period of sixty (60) days from the opening thereof. Bid Tabulation Sheets will be E-mailed to all bona fide bidders who send a request.

City of Greenville
Engineering Department
1500 Beatty Street
P.O. Box 7207
Greenville, NC 27835-7207
John Paul Harrell
Construction Project Manager I
Telephone: (252) 329-4887
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INSTRUCTION TO BIDDERS

1. Defined Terms

Terms used in these Instructions to Bidders that are defined in the Standard General Conditions of the Construction Contract (2007 Edition) have the meanings assigned to them in the General Conditions.

Certain additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof.

- 1.1.1 Bidder – one who submits a Bid directly to Owner as distinct from a sub-bidder, who submits a bid to a Bidder.
- 1.1.2 Issuing Office – the office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.
- 1.1.3 Successful Bidder – the lowest, responsible and responsive Bidder to whom Owner (on basis of Owner’s evaluation as hereinafter provided) makes an award.
- 1.1.4 Owner – the City of Greenville, NC.
- 1.1.5 Engineer – The Engineering Department of the City of Greenville.

2. Copies of Bidding Documents

- 2.1 Complete sets of the Bidding Documents in the number and for the sum, if any, stated in the Advertisement or Invitation to Bid may be obtained from the Issuing Office.
- 2.2 Complete sets of Bidding Documents must be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.3 Owner and Engineer in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

3. Qualifications of Bidders

- 3.1 To demonstrate Bidder’s qualifications to perform the Work prior to award, within five days of Owner’s request, Bidder shall submit written evidence which shall include, but not be limited to, the following:
 - 3.1.1 Official name of Bidder and length of time the organization has been in business under present name.
 - 3.1.2 Address and phone numbers of company office that will manage the Project if different than that provided in the Bid.
 - 3.1.3 Officers of the company. Name and resume of designated project manager and field superintendent. Number of regular employees of the organization.

- 3.1.4 Financial statements of the Bidder's company for the last three years including assets, liabilities, and other information requested by Owner to establish the Bidder's financial capability to complete the Project. The Bidder must also provide the names, addresses, and telephone numbers for at least two (2) major equipment suppliers, two (2) major material suppliers, and two (2) major subcontractors that the Owner may contact as financial references of the Bidder. Record of failure to honor contractual commitments, consistent non-payment or payment not completed in a timely manner, and/or unfavorable references will be grounds for the Owner to disqualify the Bidder.
- 3.1.5 Name and home office address of the Surety proposed and the name and address of the responsible local claim agent.
- 3.1.6 Past experience on similar type and size projects within the past five (5) years, in the state for which this Project is to be constructed. Information shall include the names of the projects with brief descriptions, contact names and phone numbers of owners and engineers familiar with the listed projects, schedule contract time and actual completion time, original and final contract price (include brief explanation of cost overruns and change orders), and subcontractors used on the projects. Evidence of the lack of experience on similar type and size projects, consistently unfavorable interviews with owners and engineers for the projects, a consistent record of not completing the work on schedule, a record of substantial claims for change orders (all evaluations based upon interviews with the listed contact names), will be grounds for the Owner to disqualify the Bidder.
- 3.1.7 A list of all projects the Bidder will have under construction and/or commitment to at the time of the anticipated Notice to Proceed (assume 60 days from the Bid date). This list shall include a complete description of each project including the type, size, structures, major equipment items, and contract amount. This list shall identify the office(s) from which these projects are being coordinated, managed, and staffed. The list shall also identify the number of personnel staffed for each project, along with the total number of personnel for the Bidder's corporation. Evidence that the Bidder is or will be "over-extended" during the Contract Time for this Project will be considered grounds for the Owner to disqualify the Bidder.
- 3.1.8 A list of all subcontractors and suppliers expected to be utilized on this Project. The list shall include past project experience of the subcontractors and suppliers for similar type and size projects. Include contact names and telephone numbers of the subcontractors and suppliers listed for the Project.
- A record of poor financial history with the listed subcontractors and suppliers (as outlined in Item "E" above), failure of the Bidder to provide the proper Contract Documents to the subcontractors and/or suppliers for their bidding purposes, and/or lack of experience on similar type and size projects will be considered grounds for the Owner to disqualify the Bidder.
- 3.1.9 Statement that bidder is capable of completing the project within the stated time.
- 3.1.10 The Bidder shall list any and all construction related claims or legal actions by the Contractor against Owners or Engineers in the last five years. Provide a list of any and all construction related claims or legal actions by the Owners, Engineers, or Subcontractors in the last five years.

Evidence of a pattern of claims and/or legal action either by the Bidder or against the Bidder will be considered grounds for the Owner to disqualify the Bidder.

4. Examination of Contract Documents and Site.

- 4.1 It is the responsibility of each Bidder before submitting a Bid:
- 4.1.1. To examine thoroughly the Contract Documents and other related data identified in the Bidding Documents (including "technical data" referred to below):
 - 4.1.2. To visit the site to become familiar with and satisfy Bidder as to the general, local and site conditions that may affect cost, progress, performance or furnishing of the Work;
 - 4.1.3. To consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work;
 - 4.1.4. To study and carefully correlate Bidder's knowledge and observations with the Contract Documents and such other related data; and
 - 4.1.5. To promptly notify Engineer of all conflicts, errors, ambiguities or discrepancies that Bidder has discovered in or between the Contract Documents and such other related documents.

4.2 Reference is made to the Supplementary Conditions for identification of the following:

- 4.2.1 Those reports of explorations and tests of subsurface conditions at or contiguous to the site which have been utilized by Engineer in preparation of the Contract Documents. Bidder may rely upon the general accuracy of the "technical data" contained in such reports but not upon other data, interpretations, opinions or information contained in such reports or otherwise relating to the subsurface conditions at the site, nor upon the completeness thereof for the purposes of bidding or construction. Subsurface data are offered in good faith solely for the purpose of placing the Bidder in receipt of all information available to the Owner and the Engineer and in no event is to be considered part of the Contract Documents.
 - 4.2.2 Those drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) which are at or contiguous to the site that have been utilized by Engineer in preparation of the Contract Documents. Bidder may rely upon the general accuracy of the "technical data" contained in such drawings but not upon other data, interpretations, opinions or information shown or indicated in such drawings or otherwise relating to such structures, nor upon the completeness thereof for the purposes of bidding or construction. Copies of such reports and drawings will be made available by Owner to any Bidder on request. Those reports and drawings are part of the Contract Documents. Bidder is responsible for any interpretation or conclusion drawn from any "technical data" or any such data, interpretations, opinions or information.
 - 4.2.3 Information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities or others, and Owner and Engineer do not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary Conditions.
- 4.3 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders

with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Contract Documents due to differing or unanticipated conditions appear in Paragraphs 4.02 and 4.03 of the General Conditions.

- 4.4 Before submitting a Bid each Bidder will be responsible to obtain such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise, which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of the Contract Documents.
- 4.5 On request, Owner will provide each Bidder access to the site to conduct such examinations, investigations, explorations, tests and studies, as each Bidder deems necessary for submission of a Bid. Bidder must fill all holes and clean up and restore the site to its former conditions upon completion of such explorations, investigations, tests and studies.
- 4.6 Reference is made to the Supplementary Conditions or the Division 1 Project Requirements for the identification of the general nature of work that is to be performed at the site by Owner or others (such as utilities and other prime contractors) that relates to the work for which a Bid is to be submitted. On request, Owner will provide to each Bidder for examination access to or copies of Contract Documents (other than portions thereof related to price) for such work.
- 4.7 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Contract Documents and applying the specific means, methods, techniques, sequences or procedures of construction (if any) that may be shown or indicated or expressly required by the Contract Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities and discrepancies that Bidder has discovered in the Contract Documents and the written resolutions thereof by Engineer is acceptable to Bidder, and that the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.
- 4.8 The Provisions of IB-4.1 through 4.8, inclusive, do not apply to Asbestos, Polychlorinated Biphenyl (PCB), Petroleum, Hazardous Waste or Radioactive Material covered by Paragraph 4.06 of the General Conditions.

5. Availability of Lands for Work, etc.

The lands upon which the Work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by CONTRACTOR in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by the CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Contract Documents.

6. Interpretations and Addenda.

- 6.1. All questions about the meaning or intent of the Bidding Documents are to be directed to the Engineer. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 6.2. Addenda may also be issued to modify the Bidding Documents as deemed advisable by Owner or Engineer.

7. Bid Security.

- 7.1 Each Bid must be accompanied by Bid security made payable to Owner in an amount of five percent of Bidder's maximum Bid price and in the form of a certified or bank check or a Bid Bond (on form attached, if a form is prescribed) issued by a surety meeting the requirements of Paragraph 5.02 of the General Conditions.
- 7.2 The Bid security of Successful Bidder will be retained until such Bidder has executed the Agreement, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Agreement and furnish the required contract security within fifteen days after the Notice of Award, Owner may annul the Notice of Award and the Bid security of that Bidder will be forfeited.

The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of the seventh day after the Effective Date of the Agreement or the sixtieth day after the Bid opening, whereupon Bid security furnished by such Bidders will be returned. Bid security with Bids which are not competitive will be returned within seven days after the Bid opening if requested by Bidder.

8. Contract Times.

The number of days within which, or the dates by which, the Work is to be substantially completed and also completed and ready for final payment (the term "Contract Times" is defined in paragraph 1.01A (14) of the General Conditions) are set forth in the Agreement and incorporated therein by reference to the attached Bid Form.

9. Liquidated Damages.

Liquidated damages are \$1,400 per day. Provisions for liquidated damages are set forth in the Agreement and incorporated therein by reference to the attached Bid Form.

10. Substitute and "Or Equal" Items.

The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute of "or equal" items. Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or "or equal" item or material or equipment may be furnished or used by

CONTRACTOR if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the Effective Date of the Agreement. The procedure for submission of any such application by CONTRACTOR and consideration by Engineer is set forth in Paragraph 6.05 of the General Conditions and may be supplemented in the Division 1 Project Requirements.

11. Subcontractors, Suppliers and Others.

If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers and other persons and organizations (including those who are to furnish the principal items of material and equipment) to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening submit to Owner a list of all such Subcontractors, Suppliers and other persons and organizations proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, person or organization if requested by Owner. An Owner or Engineer who after due investigation has reasonable objection to any proposed Subcontractor, Supplier, other person or organization, may before the Notice of Award is given request apparent Successful Bidder to submit an acceptable substitute, without an increase in Bid price.

If apparent Successful Bidder declines to make any such substitution, Owner may award the contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers and other persons and organizations. The declining to make requested substitutions would not constitute grounds for sacrificing the Bid security of any Bidder. Any Subcontractor, Supplier, other person or organization listed and to whom Owner or Engineer does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06B of the General Conditions.

- 11.2 Refer to MINORITY BUSINESS SUPPLEMENTAL CONDITIONS for the City of Greenville's M/WBE goals.
- 11.3 No CONTRACTOR shall be required to employ any Subcontractor, Supplier, other person or organization against which CONTRACTOR has reasonable objection.

12. Bid Form.

- 12.1 The Bid Form is included with the Bidding Documents; additional copies may be obtained from Engineer (or the Issuing Office).
- 12.2 All blanks on the Bid Form must be completed by printing in ink.
- 12.3 When Line Items with the same description appear in the Base Bid and any Alternates, BIDDER shall use the same unit price for all instances of said Line Items.
- 12.4 Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature.

- 12.5 Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.
- 12.6 All names must be typed or printed in ink below the signature.
- 12.7 The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).
- 12.8 The address and telephone number for communications regarding the Bid must be shown.
- 12.9 Evidence of authority to conduct business as an out-of-state corporation in the state where the Work is to be performed shall be provided in accordance with Paragraph 3 above. State Contractor license number must also be shown.

13. Submission of Bids.

13.1 Bids shall be submitted at the time and place indicated in the Advertisement of Invitation to Bid and shall be enclosed in an opaque sealed envelope, marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted) and name and address of Bidder and accompanied by the Bid security and other required documents. If the Bid is sent through the mail or other delivery system the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it. Facsimile (Fax) bids are not acceptable.

- 13.2 The following items must be submitted as part of the completed Bid package at the time of Bid:
- Bid Form
 - Bid Security - Bid Bond or Certified Check
 - Non-Collusion Affidavit
 - M/WBE Documentation

14. Modification and Withdrawal of Bids.

- 14.1 Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.
- 14.2 If, within seventy-two hours after Bids are opened, any Bidder files a duly signed, written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid and the Bid security will be returned in accordance with applicable North Carolina laws. Thereafter, that Bidder will be disqualified from further bidding on the Work to be provided under the Contract Documents.

15. Opening of Bids.

Bids will be opened and (unless obviously non-responsive) read aloud publicly at the place where Bids are to be submitted. An abstract of the amounts of the base Bids and major alternates (if any) will be made available to Bidders after the opening of Bids.

16. Bids to Remain Subject to Acceptance.

All Bids will remain subject to acceptance for sixty (60) days after the day of the Bid opening, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to that date.

17. Award of Contract.

- 17.1 Owner reserves the right to reject any or all Bids, including without limitation the rights to reject any or all nonconforming, non-responsive, unbalanced or conditional Bids and to reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner, including but not limited to past performance by the bidder involving other City projects. Owner also reserves the right to waive all informalities not involving price, time or changes in the Work and to negotiate contract terms with the Successful Bidder. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.
- 17.2 In evaluating Bids, Owner will consider the qualifications of Bidders, whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- 17.3 Owner may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work as to which the identity of Subcontractors, Suppliers, and other persons and organizations must be submitted as provided in the Supplementary Conditions. Owner also may consider the operating costs, maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.
- 17.4 Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of Bidders, proposed Subcontractors, Suppliers and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.
- 17.5 If the contract is to be awarded, it will be awarded to lowest Bidder whose evaluation by owner indicates to Owner that the award will be in the best interests of the Project.
- 17.6 The Owner reserves the right to award any or all parts of a Contract but separate parts of the same Contract will not be awarded to different contractors.
- 17.7 If the contract is to be awarded, Owner will give Successful Bidder a Notice of Award within

ninety days after the day of the Bid opening.

18. Contract Security.

Paragraph 5.1 of the General Conditions and the Supplementary Conditions set forth Owner's requirements as to performance and payment bonds. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by the required performance and payment Bonds.

19. Signing of Agreement.

When Owner gives a Notice of Award to the Successful Bidder, Bidder is required to furnish the required Contractor's Performance Bond, Payment Bond, and Certificate of Insurance within ten (10) calendar days from the date the Notice is received.

Upon receipt of the required Performance Bond, Payment Bond, and Certificate of Insurance, the Owner will insert these documents into the contract and initiate execution of the contract via DocuSign. Bidder is required to execute the contract within five (5) days of receiving it via DocuSign. Within fourteen (14) days after award Owner shall deliver one fully signed counterpart to CONTRACTOR.

INTENTIONALLY LEFT BLANK

BID FORM

PROJECT IDENTIFICATION: **2024 Street Rehabilitation & Preservation Project
ENG-2024-001
GREENVILLE, NORTH CAROLINA**

THIS BID IS SUBMITTED TO: **CITY OF GREENVILLE ENGINEERING DEPARTMENT
1500 BEATTY STREET
GREENVILLE, NORTH CAROLINA**

1. The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an agreement with OWNER in the form included in the Contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Bid Price and within the Bid Times indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.
2. BIDDER accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for sixty days after the day of Bid opening. BIDDER will sign and deliver the required number of counterparts of the Agreement with the Bonds and other documents required by the Bidding Requirements within ten days after the date of OWNER'S Notice of Award.
3. In submitting this Bid, BIDDER represents, as more fully set forth in the Agreement, that:
 - (a) BIDDER has examined and carefully studied the Bidding Documents and the following Addenda receipt of all, which is hereby acknowledged: (List Addenda by Addendum Number and Date)

| <u>Addendum Number</u> | <u>Date</u> |
|------------------------|-------------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

- (b) BIDDER has visited the site and become familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress, performance and furnishing of the Work;
- (c) BIDDER is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work.
- (d) BIDDER has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions. BIDDER accepts the determination set forth in paragraph the

Supplementary Conditions of the extent of the "technical data" contained in such reports and drawings upon which BIDDER is entitled to rely as provided in paragraph 4.02 of the General Conditions. BIDDER acknowledges that such reports and drawings are not Contract Documents and may not be complete for BIDDER'S purposes. BIDDER acknowledges that OWNER and Engineer do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Bidding Documents with respect to Underground Facilities at or contiguous to the site. BIDDER has obtained and carefully studied (or assumes responsibility for not having done so) all such additional or supplementary examinations, investigations, explorations, tests studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise which may affect cost progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by BIDDER and safety precautions and programs incident thereto. BIDDER does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the determination of this Bid for performance and furnishing of the Work in accordance with the times, price and other terms and conditions of the Contract Documents.

- (e) BIDDER is aware of the general nature of Work to be performed by Owner and others at the site that relates to Work for which this Bid is submitted as indicated in the Contract Documents.
 - (f) BIDDER has correlated the information known to BIDDER, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.
 - (g) BIDDER has given ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that BIDDER has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to BIDDER, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work for which this Bid is submitted.
 - (h) This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; BIDDER has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; BIDDER has not solicited or induced any person, firm or corporation to refrain from bidding; and BIDDER has not sought by collusion to obtain for itself any advantage over any other BIDDER or over OWNER.
4. BIDDER will complete the Work in accordance with the Contract Documents for the following unit price(s):
- (a) All specific cash allowances are included in the price(s) set forth and have been computed in accordance with paragraph 11.02 of the General Conditions.
 - (b) Unit Prices have been computed in accordance with paragraph 11.03 of the General Conditions.
 - (c) When Line Items with the same description appear in the Base Bid and any Alternates, BIDDER shall use the same unit price for all instances of said Line Items.
5. BIDDER acknowledges that quantities for unit price work are not guaranteed and final payment will

SCHEDULE OF QUANTITIES FOR BID
2024 Street Rehabilitation & Preservation Project
OWNER: CITY OF GREENVILLE

BID OPENING DATE: November, 28, 2023

The unit prices noted herein shall include installing in place, complete and accepted.

BASE BID – CONTRACT TIME: 120 DAYS
STREET REHABILITATION & PRESERVATION, COLD MILLING OF ASPHALT
PAVEMENTS, PAVEMENT MARKINGS/SIGNALS

| Item No. | Item Description | Scheduled Quantities | Unit | Unit Price | Amount |
|----------|---|----------------------|------|------------|--------|
| 1 | MOBILIZATION | 1 | LS | | |
| 2 | ASPHALT CONCRETE SURFACE COURSE, TYPE S 9.5B | 7,455 | TON | | |
| 3 | ASPHALT PLANT MIX, PAVEMENT REPAIR, 4" DEEP | 2,050 | TON | | |
| 4 | STREET MICRO SURFACING – TYPE II (DOUBLE APPLICATION) | 40,555 | SY | | |
| 5 | RUT FILLING | 200 | SF | | |
| 6 | CRACK SEALING | 139,350 | SY | | |
| 7 | CAPE SEAL | 26,920 | SY | | |
| 8 | REJUVINATOR | 114,450 | SY | | |
| 9 | ROADWAY CLEANING | 182,000 | SY | | |
| 10 | ADJUST/REPLACE EXISTING WATER/GAS VALVE BOXES | 57 | EA | | |
| 11 | ADJUST/REPLACE EXISTING STORM DRAIN/SANITARY SEWER CASTINGS AND COVER | 32 | EA | | |
| 12 | REMOVAL OF EXISTING CONCRETE CURB AND GUTTER | 1,425 | LF | | |
| 13 | REMOVAL OF EXISTING VALLEY GUTTER | 540 | LF | | |
| 14 | 24" CONCRETE CURB AND GUTTER | 1,390 | LF | | |
| 15 | 30" CONCRETE CURB AND GUTTER | 35 | LF | | |
| 16 | VALLEY GUTTTER | 30 | CY | | |
| 17 | 4" THICK CONCRETE SIDEWALK | 120 | SY | | |
| 18 | 6" CONCRETE DRIVEWAY APRON (4 th ST) | 70 | SY | | |
| 19 | REPAIR EXISTING CONCRETE PAVEMENT (8" THICK) (4 th ST) | 75 | SY | | |

| | | | | | |
|----|---|--------|----|--|--|
| 20 | SELECT TREE REMOVAL (4 th ST) | 2 | EA | | |
| 21 | REMOVAL OF EXISTNG CONCRETE WHEELCHAIR RAMPS | 12 | EA | | |
| 22 | TYPE 1 CONCRETE WHEELCHAIR RAMP | 5 | EA | | |
| 23 | TYPE 3 CONCRETE WHEELCHAIR RAMP | 2 | EA | | |
| 24 | TYPE 4 CONCRETE WHEELCHAIR RAMP | 4 | EA | | |
| 25 | TYPE 4A CONCRETE WHEELCHAIR RAMP | 1 | EA | | |
| 26 | SEEDING AND MULCHING | 385 | SY | | |
| 27 | WORK ZONE TRAFFIC CONTROL | 1 | LS | | |
| 28 | MILLING ASPHALT PAVEMENT, 1" to 3" DEPTH | 74,500 | SY | | |
| 29 | PROOF ROLLING | 61 | HR | | |
| 30 | REMOVAL OF EXISTING SPEED HUMPS | 2 | EA | | |
| 31 | REMOVAL OF SPEED CUSIONS | 6 | EA | | |
| 32 | INSTALLATION OF SPEED CUSHIONS | 12 | EA | | |
| 33 | 4" THERMOPLASTIC WHITE LINE, 120 MILS | 3,750 | LF | | |
| 34 | 12" THERMOPLASTIC WHITE LINE, 120 MILS | 450 | LF | | |
| 35 | 24" THERMOPLASTIC WHITE LINE, 120 MILS | 150 | LF | | |
| 36 | 4" THERMOPLASTIC YELLOW LINE, 120 MILS | 4,225 | LF | | |
| 37 | THERMOPLASTIC PAVEMENT MARKING, 4" PARKING T | 500 | EA | | |
| 38 | THERMOPLASTIC PAVEMENT MARKING SYMBOLS, ARROWS (STRAIGHT OR TURN) | 11 | EA | | |
| 39 | THERMOPLASTIC PAVEMENT MARKING SYMBOLS, COMBINATION ARROWS | 7 | EA | | |
| 40 | THERMOPLASTIC PAVEMENT MARKING, HANDICAP SYMBOL | 4 | EA | | |
| 41 | THERMOPLASTIC PAVEMENT MARKING, BIKE SYMBOL | 3 | EA | | |
| 42 | THERMOPLASTIC PAVEMENT MARKING, SHARROW SYMBOL | 10 | EA | | |
| 43 | TEMPORARY PAINT PAVEMENT MARKING LINES, 4" WHITE | 3,750 | LF | | |
| 44 | TEMPORARY PAINT PAVEMENT MARKING LINES, 12" WHITE | 450 | LF | | |
| 45 | TEMPORARY PAINT PAVEMENT MARKING LINES, 24" WHITE | 150 | LF | | |
| 46 | TEMPORARY PAINT PAVEMENT MARKING LINES, 4" YELLOW | 4,225 | LF | | |
| 47 | TEMPORARY PAINT PAVEMENT MARKING, 4" PARKING T | 500 | EA | | |
| 48 | TEMPORARY PAINT PAVEMENT MARKING SYMBOLS, ARROWS (STRAIGHT OR TURN) | 11 | EA | | |

| | | | | | |
|----|--|----|----|--|--|
| 49 | TEMPORARY PAINT PAVEMENT MARKING SYMBOLS, COMBINATION ARROWS | 7 | EA | | |
| 50 | TEMPORARY PAINT PAVEMENT MARKING, HANDICAP SYMBOL | 4 | EA | | |
| 51 | TEMPORARY PAINT PAVEMENT MARKING, BIKE SYMBOL | 3 | EA | | |
| 52 | TEMPORARY PAINT PAVEMENT MARKING, SHARROW SYMBOL | 10 | EA | | |

BASE BID TOTAL: _____

ALTERNATE BID 1 – ADDITIONAL CONTRACT TIME: 4 DAYS
Best Rd. – B’s Barbeque Rd to Street End

| Item No. | Item Description | Scheduled Quantities | Unit | Unit Price | Amount |
|----------|---|----------------------|------|------------|--------|
| 1 | MOBILIZATION | 1 | LS | | |
| 2 | ASPHALT CONCRETE SURFACE COURSE, S 9.5B | 130 | TON | | |
| 3 | ASPHALT PLANT MIX, PAVEMENT REPAIR, 4” DEEP | 30 | TON | | |
| 4 | ADJUST/REPLACE EXISTING STORM DRAIN/SANITARY SEWER CASTINGS AND COVER | 1 | EA | | |
| 5 | WORK ZONE TRAFFIC CONTROL | 1 | LS | | |
| 6 | MILLING ASPHALT PAVEMENT, 1” TO 3” DEPTH | 1,178 | SY | | |
| 7 | PROOF ROLLING | 2 | HR | | |

ALTERNATE BID 1 TOTAL: _____

ALTERNATE BID 2 – ADDITIONAL CONTRACT TIME: 4 DAYS
Laura Ln. – Adams Blvd. to David Dr.

| Item No. | Item Description | Scheduled Quantities | Unit | Unit Price | Amount |
|----------|---|----------------------|------|------------|--------|
| 1 | MOBILIZATION | 1 | LS | | |
| 2 | ASPHALT CONCRETE SURFACE COURSE, S 9.5B | 128 | TON | | |
| 3 | ASPHALT PLANT MIX, PAVEMENT REPAIR, 4” DEEP | 120 | TON | | |

| | | | | | |
|---|--|-------|----|--|--|
| 4 | WORK ZONE TRAFFIC CONTROL | 1 | LS | | |
| 5 | MILLING ASPHALT PAVEMENT, 1" TO 3" DEPTH | 1,160 | SY | | |
| 6 | PROOF ROLLING | 2 | HR | | |

ALTERNATE BID 2 TOTAL: _____

ALTERNATE BID 3 – ADDITIONAL CONTRACT TIME: 5 DAYS

Litchford Pl. – Albion Dr. to Street End

| Item No. | Item Description | Scheduled Quantities | Unit | Unit Price | Amount |
|----------|---|----------------------|------|------------|--------|
| 1 | MOBILIZATION | 1 | LS | | |
| 2 | ASPHALT CONCRETE SURFACE COURSE, S 9.5B | 245 | TON | | |
| 3 | ASPHALT PLANT MIX, PAVEMENT REPAIR, 4" DEEP | 15 | TON | | |
| 4 | WORK ZONE TRAFFIC CONTROL | 1 | LS | | |
| 5 | MILLING ASPHALT PAVEMENT, 1" TO 3" DEPTH | 2,225 | SY | | |
| 6 | PROOF ROLLING | 2 | HR | | |

ALTERNATE BID 3 TOTAL: _____

ALTERNATE BID 4 – ADDITIONAL CONTRACT TIME: 4 DAYS

Perkins St. – Howell St. to Harris St.

| Item No. | Item Description | Scheduled Quantities | Unit | Unit Price | Amount |
|----------|--|----------------------|------|------------|--------|
| 1 | MOBILIZATION | 1 | LS | | |
| 2 | ASPHALT CONCRETE SURFACE COURSE, S 9.5B | 275 | TON | | |
| 3 | ASPHALT PLANT MIX, PAVEMENT REPAIR, 4" DEEP | 60 | TON | | |
| 4 | REMOVAL OF EXISTING CONCRETE CURB AND GUTTER | 17 | LF | | |
| 5 | 24" CONCRETE CURB AND GUTTER | 17 | LF | | |
| 6 | WORK ZONE TRAFFIC CONTROL | 1 | LS | | |
| 7 | MILLING ASPHALT PAVEMENT, 1" TO 3" DEPTH | 2,495 | SY | | |
| 8 | PROOF ROLLING | 2 | HR | | |

ALTERNATE BID 4 TOTAL: _____

ALTERNATE BID 5 – ADDITIONAL CONTRACT TIME: 5 DAYS
Pine St. – Memorial Dr. to Millbrook St.

| Item No. | Item Description | Scheduled Quantities | Unit | Unit Price | Amount |
|----------|--|----------------------|------|------------|--------|
| 1 | MOBILIZATION | 1 | LS | | |
| 2 | ASPHALT CONCRETE SURFACE COURSE, S 9.5B | 835 | TON | | |
| 3 | ASPHALT PLANT MIX, PAVEMENT REPAIR, 4" DEEP | 63 | TON | | |
| 4 | REMOVAL OF EXISTING CONCRETE CURB AND GUTTER | 40 | LF | | |
| 5 | REMOVAL OF EXISTING VALLEY GUTTER | 28 | LF | | |
| 6 | 24" CONCRETE CURB AND GUTTER | 60 | LF | | |
| 7 | VALLEY GUTTER | 1 | CY | | |
| 8 | WORK ZONE TRAFFIC CONTROL | 1 | LS | | |
| 9 | MILLING ASPHALT PAVEMENT, 1" TO 3" DEPTH | 7,586 | SY | | |
| 10 | PROOF ROLLING | 3 | HR | | |
| 11 | REMOVAL OF SPEED CUSIONS | 9 | EA | | |
| 12 | INSTALL OF SPEED CUSHIONS | 9 | EA | | |

ALTERNATE BID 5 TOTAL: _____

ALTERNATE BID 6 – ADDITIONAL CONTRACT TIME: 5 DAYS
S Harding St. – E 4th St. to E 1st St.

| Item No. | Item Description | Scheduled Quantities | Unit | Unit Price | Amount |
|----------|--|----------------------|------|------------|--------|
| 1 | MOBILIZATION | 1 | LS | | |
| 2 | ASPHALT CONCRETE SURFACE COURSE, S 9.5B | 330 | TON | | |
| 3 | ASPHALT PLANT MIX, PAVEMENT REPAIR, 4" DEEP | 20 | TON | | |
| 4 | ADJUST/REPLACE WATER/GAS VALVE BOXES | 1 | EA | | |
| 5 | REMOVAL OF EXISTING CONCRETE CURB AND GUTTER | 43 | LF | | |

| | | | | | |
|----|--|-------|----|--|--|
| 6 | 24" CONCCRETE CURB AND GUTTER | 43 | LF | | |
| 7 | WORK ZONE TRAFFIC CONTROL | 1 | LS | | |
| 8 | MILLING ASPHALT PAVEMENT, 1" TO 3" DEPTH | 2,967 | SY | | |
| 9 | PROOF ROLLING | 3 | HR | | |
| 10 | THERMOPLASTIC PAVEMENT MARKING, 4" PARKING T | 86 | EA | | |
| 11 | TEMPORARY PAVEMENT MARKING, 4" PARKING T | 86 | EA | | |

ALTERNATE BID 6 TOTAL: _____

ALTERNATE BID 7 – ADDITIONAL CONTRACT TIME: 4 DAYS

Stancill Dr. – Willow St. to Street End

| Item No. | Item Description | Scheduled Quantities | Unit | Unit Price | Amount |
|----------|--|----------------------|------|------------|--------|
| 1 | MOBILIZATION | 1 | LS | | |
| 2 | ASPHALT CONCRETE SURFACE COURSE, S 9.5B | 246 | TON | | |
| 3 | ASPHALT PLANT MIX, PAVEMENT REPAIR, 4" DEEP | 18 | TON | | |
| 4 | ADJUST/REPLACE WATER/GAS VALVE BOXES | 1 | EA | | |
| 5 | REMOVAL OF EXISTING CONCRETE CURB AND GUTTER | 39 | LF | | |
| 6 | REMOVAL OF VALLEY GUTTER | 30 | LF | | |
| 7 | 24" CONCRETE CURB AND GUTTER | 39 | LF | | |
| 8 | VALLEY GUTTER | 3 | CY | | |
| 9 | WORK ZONE TRAFFIC CONTROL | 1 | LS | | |
| 10 | MILLING ASPHALT PAVEMENT, 1" TO 3" DEPTH | 2,236 | SY | | |
| 11 | PROOF ROLLING | 2 | HR | | |

ALTERNATE BID 7 TOTAL: _____

Contractor: _____

License #: _____

Signature: _____

Date: _____

STREET LISTING/ESTIMATES FOR ASPHALT AND MILLING – BASE BID

***Streets marked by asterisk will be milled with 4' Edge Milling**

| Street Name | From | To | Milling (SY) | Estimated 4" Base Repair (Tons)** | Resurfacing (Tons) | Thickness (inches) |
|----------------------|-----------------------------|-----------------------------|---------------------|--|---------------------------|---------------------------|
| <i>Anderson St</i> | <i>E 10th St</i> | <i>E 11th St</i> | 1,080 | 40 | 120 | 2 |
| <i>Battle Dr</i> | <i>Lincoln Dr</i> | <i>Bancroft Ave</i> | 4,910 | 85 | 540 | 2 |
| <i>Briarcliff Dr</i> | <i>Ellsworth Dr</i> | <i>Street End</i> | 5,184 | 235 | 575 | 2 |
| <i>*Caldwell Ct</i> | <i>Kristin Dr</i> | <i>Cul-De-Sac</i> | 693 | 15 | 80 | 2 |
| <i>*Crockett Dr.</i> | <i>Polk Ave</i> | <i>Cedar Ln</i> | 3,579 | 200 | 400 | 2 |
| <i>*Dogwood Dr</i> | <i>Lakewood Dr</i> | <i>Pineview Dr</i> | 1,220 | 50 | 140 | 2 |
| <i>Greenwood Dr</i> | <i>Crestline Blvd</i> | <i>Club Pines Dr</i> | 9,450 | 10 | 115 | 2 |
| <i>Eden Pl</i> | <i>Crockett Dr</i> | <i>Tryon Dr</i> | 1,350 | 45 | 150 | 2 |
| <i>*Kingston Cl</i> | <i>SE Greenville Blvd</i> | <i>Cul-De-Sac</i> | 1,900 | 70 | 210 | 2 |
| <i>Kristin Dr</i> | <i>Alice Dr</i> | <i>SE Greenville Blvd</i> | 6,456 | 230 | 715 | 2 |
| <i>*Lakewood Dr</i> | <i>Evans St</i> | <i>Street End</i> | 2,610 | 40 | 290 | 2 |
| <i>Lawrence St</i> | <i>E 10th St</i> | <i>E 11th St</i> | 2,610 | 35 | 115 | 2 |

| | | | | | | |
|-----------------------------|----------------------------|---|-------|-----|-------|---|
| <i>Lincoln Dr</i> | <i>Bancroft Ave</i> | <i>Bancroft Ave</i> | 2,874 | 60 | 320 | 2 |
| <i>Line Ave</i> | <i>Chestnut St</i> | <i>Pavement Joint north of N Village Dr</i> | 6,711 | 50 | 740 | 2 |
| <i>Mosby Cl</i> | <i>Kristin Dr</i> | <i>Cul-De-Sac</i> | 657 | 30 | 75 | 2 |
| <i>N Meade St</i> | <i>E 1st St</i> | <i>Stancill Dr</i> | 2,933 | 100 | 325 | 2 |
| <i>Piccadilly Dr</i> | <i>Royal Dr</i> | <i>County Home Rd</i> | 2,500 | 80 | 275 | 2 |
| <i>*Pineview Dr</i> | <i>Lakewood Dr</i> | <i>Poplar Dr</i> | 3,360 | 7 | 370 | 2 |
| <i>*Poplar Dr</i> | <i>Pineview Dr</i> | <i>Evans St</i> | 296 | 10 | 35 | 2 |
| <i>*Sara Ln</i> | <i>Evans St</i> | <i>Cul-De-Sac</i> | 1,678 | 100 | 185 | 2 |
| <i>Stancill Dr</i> | <i>N Meade St</i> | <i>Willow St</i> | 2,921 | 70 | 322 | 2 |
| <i>E. 4th St</i> | <i>Reade St</i> | <i>Elm St</i> | 3,450 | 150 | 1,350 | 2 |

CONCRETE CURB RAMPS WILL BE SHOWN ON MAPS IN APPENDIX B

STREET LISTING FOR MICRO SURFACING – BASE BID

| Street Name | From | To |
|----------------------|----------------|----------------|
| <i>*SPRUCE ST.</i> | LINE AVE. | RALEIGH AVE. |
| <i>*DUNHAVEN DR.</i> | E. BAYWOOD LN. | E. BAYWOOD LN. |

| | | |
|-------------------|--------------------------|------------------------|
| *BENT CREEK DR. | E. BAYWOOD LN. | CEDARHURST RD. |
| PALMETTO DR. | PENNCROSS DR. | PENNCROSS DR. |
| *FESCUE DR. | PENNCROSS DR. | PENNCROSS DR. |
| *ST. AUGUSINE DR. | PENNCROSS DR. | PENNCROSS DR. |
| *TIFFGREEN DR | PENNCROSS DR. (SOUTHERN) | END PHASE LINE |
| *TREVINO DR. | PENNCROSS DR. | MASTERS LN. |
| *S. PITT ST. | 1 ST ST | W. 5 TH ST. |
| *MILL CREEK DR. | FROG LEVEL | CUL-DE-SAC |
| *MEGAN DR. | CUL-DE-SAC | NEW PAHSE LINE |
| *NATALIE WAY. | MEGAN DR. | MILL CREEK DR. |

*Roadway will have 4" Base Patching

STREET LISTING FOR CRACK SEALING – BASE BID

| Street Name | From | To |
|------------------------|--------------------|---------------------|
| HOOKER RD. | W. ARLINGTON BLVD. | SW GREENVILLE BLVD. |
| E. ARLINGTON BLVD. | SW GREENVILLE BLVD | FIRETOWER RD. |
| E. 1 ST ST. | N. SUMMIT ST. | BROWNLEA DR. |
| EASY ST. | BEVIOR HWY | N. MEMORIAL DR. |
| BAYSWATER RD. | E. FIRETOWER RD. | E. FIRETOWER RD. |

*Seal Cracks at Edge of Pavement/Gutter Joint

STREET LISTING FOR ASPHALT REJUVENATION – BASE BID

| Street Name | From | To |
|------------------|-------------------------|------------------------|
| BROWNLEA DR. | N. WARREN ST. | E. 5 TH ST. |
| CONTENTNEA ST. | STREET END. | 3 RD ST. |
| CONTENTNEA ST. | 4 th ST. | FLEMING ST |
| COTANCHE ST. | E. 1 ST ST. | E. 5 TH ST. |
| DOUGLAS AVE. | W. 14 TH AVE | STREET END |
| ELIZABETH ST. | W. 3 RD ST. | WARD ST. |
| GREEN SPINGS DR. | HEATH ST. | E. 5 TH ST. |
| GREENFIELD BLVD. | NC HWY 11 | STREET END |

| | | |
|-------------------|------------------------|------------------------|
| HOWELL ST. | PERKINS ST. | EVANS ST. |
| IMPERIAL ST. | VANCE ST. | CONTENTNEA ST. |
| LATHAM ST. | W. 3 RD ST. | W. 5 TH ST. |
| MCKINLEY AVE. | W. 5 TH ST. | DOUGLAS AVE. |
| N. LIBRARY ST. | RIVER DR. | E. 1 ST ST. |
| N. ASH ST. | WILLOW ST. | E. 1 ST ST. |
| ROOSEVELT AVE. | W. 5 TH ST. | FLEMING ST. |
| S. MEADE ST. | N. MEADE ST | E. 5 TH ST. |
| SPRING FOREST RD. | JOHN HOPKINS DR. | DICKINSON AVE. |
| ST. ANDREWS DR. | SW GREENVILLE BLVD. | END CURB |

STREET LISTING FOR CAPE SEAL– BASE BID

| Street Name | From | To |
|------------------|--------------------|---------------------|
| *SANDY LN | OLD VILLAGE RD | OAK GROVE AVE. |
| *OLD VILLAGE RD. | FLEMING SCHOOL RD. | GRAVES ST. |
| *GRAVES ST. | OLD VILLAGE RD. | OLD VILLAGE RD. |
| *SIDNEY ST. | GRAVES ST. | FLEMING SCHOOL RD. |
| *OAK GROVE AVE. | FLEMING SCHOOL RD. | SANDY LN. |
| *PENNCROSS DR. | BERMUDA DR. | NEW PHASE LINES-N&S |
| *BERMUDA DR. | FROG LEVEL RD. | PENNCROSS DR. |

*Roadway will have 4” Base Patching

GAS VALVE LOCATIONS

- 1) Battle Dr. and Bancroft Ave one valve in intersection
- 2) W 2nd St and S Pitt St. one valve in intersection
- 3) E 4th and S. Holly St. one valve in intersection needs valve box repaired.

These valves will be adjusted by the Contractor, and use of rings for adjustment will be allowed on these valves only.

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BID BOND

KNOW ALL MEN BY THESE PRESENTS: that we, the undersigned, _____
as Principal, and _____ as Surety, are hereby held and firmly bound unto
_____ as OWNER in the penal sum of
_____ for payment of which, well and truly
to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, 202__.

The Condition of the above obligation is such that whereas the Principal has submitted to
_____ a certain BID, attached hereto and hereby made a
part hereof to enter into a contract in writing, for the _____

NOW, THEREFORE,

(a) If said BID shall be rejected, or

(b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

_____(L.S.)
Principal

Surety

By: _____

IMPORTANT - Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.

ATTACH TO BID

ATTACH TO BID

ATTACH TO BID

ATTACH TO BID

NONCOLLUSION AFFIDAVIT OF PRIME BIDDER

State of (_____)

County of (_____)

_____, being first duly sworn, deposes and says that:

- (1) He is _____ of _____, the Bidder that has submitted the attached Bid.
- (2) He is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;
- (3) Such Bid is genuine and is not a collusive or sham Bid;
- (4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees of parties in interest, including this affiant, has in any way colluded, conspired, connived, or agreed, (directly or indirectly) with any other Bidder, firm, or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement, or collusion, or communication, or conference with any other Bidder, firm, or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against the City of Greenville or any person interested in the proposed Contract; and
- (5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Contractor Signature) _____

(Title) _____

Subscribed and sworn to before me this ____ day of _____, 202__.

Signature of Notary Public _____

My commission expires _____.

INTENTIONALLY LEFT BLANK

AGREEMENT

THIS AGREEMENT is dated as of _____ by and between the **City of Greenville, NC** (hereinafter called OWNER) and _____ (hereinafter called CONTRACTOR). OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK.

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. If not specified in the contract, please reference NCDOT standards. The Work is generally described as follows:

2024 Street Rehabilitation & Preservation Project

Article 2. ENGINEER.

The Project has been designed by the City of Greenville, Engineering Department, who is hereinafter called ENGINEER and who is to act as OWNER'S representative, assume all duties and responsibilities and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

Once the Notice of Award has been issued, the OWNER may assume all or part of the responsibilities of the ENGINEER and RESIDENT PROJECT REPRESENTATIVE.

Article 3. CONTRACT TIMES.

3.1 The Work will be substantially completed within __ days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within 0 days after the date when the Contract Times commence to run.

Substantial Contract Completion Time – ___ Calendar Days

Total Contract Completion Time – ___ Calendar Days

The Contract Times shall commence to run as provided in paragraph 2.03 of the General Conditions.

3.2 Liquidated Damages. OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and the OWNER will suffer financial loss if the Work is not completed within the times specified in the BID, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER **ONE THOUSAND AND FOUR HUNDRED DOLLARS (\$1400)** (for each day that expires after the time specified in paragraph 3.1.

Article 4. CONTRACT PRICE.

OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to paragraphs 4.1 and 4.2 below:

4.1 For all Work other than Unit Price Work, a Lump Sum as shown in the BID.

All specific cash allowances are included in the BID and have been computed in accordance with paragraph 11.02 of the General Conditions.

plus

4.2 For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of that item as indicated in the BID.

As provided in paragraph 11.03 of the General Conditions estimated quantities are not guaranteed, and determinations of actual quantities and classification are to be made by ENGINEER as provided in paragraph 9.08 of the General Conditions. Unit prices have been computed as provided in paragraph 11.03 of the General Conditions.

Article 5. PAYMENT PROCEDURES.

5.1 Applications for Payment by the CONTRACTOR, processing of same by the ENGINEER and OWNER, and associated retainage shall be as set forth in the Standard Special Provisions.

Article 6. INTEREST.

Pursuant to paragraph 143-134.1, General Statutes of North Carolina, the balance due prime Contractors shall be paid in full within 45 days after respective prime contracts have been accepted by Engineer and Owner, or occupied by Owner and used for the purpose for which the project was constructed, whichever occurs first. Provided, however, that whenever Engineer determines that delay in completion of the project in accordance with terms of the Drawings and Specifications is the fault of Contractor, the project may be occupied and used for the purposes for which it was constructed without payment of any interest on amounts withheld past the 45 day limit. No payment shall be delayed because of the failure of another prime Contractor on such project to complete his contract. Should final payment to any prime Contractor beyond the date such contracts have been declared to be completed by Engineer, accepted by Owner, or occupied by Owner and used for the purposes for which the project was constructed, be delayed by more than 45 days, said prime Contractor shall be paid interest, beginning on the 46th day, at the rate of twelve percent per annum on such unpaid balance as may be due. Where a conditional acceptance of a contract exists, and where Owner is retaining a reasonable sum pending correction of such conditions, interest on such reasonable sum shall not apply.

Article 7. CONTRACTOR'S REPRESENTATIONS.

In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

7.1 CONTRACTOR has examined and carefully studied the Contract Documents (including the Addenda listed in paragraph 8) and the other related data identified in the Bidding Documents including "technical data."

7.2 CONTRACTOR has visited the site and become familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress, performance or furnishing of the Work.

7.3 CONTRACTOR is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work.

7.4 CONTRACTOR has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions. CONTRACTOR accepts determination set forth in paragraph SC - 4.02 of the Supplementary Conditions of the extent of the "technical data" contained in such reports and drawings upon which CONTRACTOR is entitled to rely as provided in paragraph 4.02 of the General Conditions. CONTRACTOR acknowledges that such reports and drawings are not Contract Documents and may not be complete for CONTRACTOR's purposes. CONTRACTOR acknowledges that OWNER and ENGINEER do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto. CONTRACTOR does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.

7.5 CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the site that relates to the Work as indicated in the Contract Documents.

7.6 CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.

7.7 CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that CONTRACTOR has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

Article 8. CONTRACT DOCUMENTS.

The Contract Documents, which comprise the entire agreement between OWNER and CONTRACTOR concerning the Work, consist of the following:

- 8.1 This Agreement.
- 8.2 Exhibits to this Agreement:
 - a. Certificate of Insurance.

- 8.3 Performance, Payment, and/or other Bonds.
- 8.4 Notice to Proceed.
- 8.5 General Conditions.
- 8.6 Supplementary Conditions.
- 8.7 Specifications bearing the title **2024 Street Rehabilitation & Preservation Project** and consisting of divisions as listed in table of contents thereof.
- 8.8 Drawings consisting of each sheet bearing the following general title: **2024 Street Rehabilitation & Preservation Project**.
- 8.9 Addenda numbers (_____) inclusive.
- 8.10 CONTRACTOR's Bid Form.
- 8.11 Minority/Women Business Enterprise documentation submitted by CONTRACTOR with the Bid Proposal (if applicable).
- 8.12 The following which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto: All Written Amendments and other documents amending, modifying or supplementing the Contract Documents pursuant to paragraph 3.04 of the General Conditions.

The documents listed in paragraphs 8.2 et seq. above are attached to this Agreement (except as expressly noted otherwise above).

There are no Contract Documents other than those listed above in this Article 8. The Contract Documents may only be amended, modified or supplemented as provided in paragraph 3.04 of the General Conditions.

Article 9. MISCELLANEOUS.

9.1. Terms used in this Agreement, which are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.

9.2. No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

9.3. OWNER and CONTRACTOR each binds itself, their partner, successors, assigns and legal representatives to the other party hereto, their partner, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

9.4 Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and

binding upon OWNER and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals on the dates written below and the undersigned hereby warrants and certifies that they have read the Agreement in its entirety, understand it and agree to be bound by all the terms and conditions stated herein. Further, they warrant and certify they are authorized to enter into this Agreement and to execute same on behalf of the parties as the act of the said parties.

SIGNATURE OF CITY

CITY OF GREENVILLE:

BY: _____
SIGNATURE

TITLE

DATE

APPROVED AS TO FORM:

BY: _____
City Attorney or Designee (Designee means Assistant City Attorney)

PRE-AUDIT CERTIFICATION:

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

BY: _____ **DATE:** _____
Director of Financial Services

ACCOUNT NUMBER _____

PROJECT CODE (IF APPLICABLE) _____

[Vendor Signature Page Follows]

SIGNATURE OF VENDOR

FULL NAME OF VENDOR
(e.g., Limited Liability Company, Organization, Individual Doing Business Under a Firm Name)

VENDOR:

BY: _____
SIGNATURE

TITLE

DATE

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PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, (Corporation, Partnership, or Individual) hereinafter called PRINCIPAL, and

(Name of Surety)

(Address of Surety)

hereinafter called SURETY, are held and firmly bound unto

City of Greenville Engineering Department
1500 Beatty Street
Greenville, NC 27834

hereinafter called OWNER, and unto all persons, firms, and corporations who or which may furnish labor, or who furnish materials to perform as described under the Contract and to their successors and assigns in the total aggregate penal sum of _____

_____ Dollars (\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the PRINCIPAL entered into a certain contract with the OWNER, dated the _____ day of _____, 202____, a copy of which is hereto attached and made a part hereof for the construction of: City of Greenville,

2024 Street Rehabilitation & Preservation Project

NOW, THEREFORE, if the PRINCIPAL shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extensions or modification thereof, including all amounts due for materials,

lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and for all labor cost incurred in such WORK including that by a SUBCONTRACTOR, and to any mechanic or material man lien holder whether it acquired its lien by operation of State or Federal law; then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, that beneficiaries or claimants hereunder shall be limited to the SUBCONTRACTORS, and persons, firms, and corporations having a direct contract with the PRINCIPAL or its SUBCONTRACTORS.

PROVIDED, FURTHER, that the said SURETY for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed hereunder or the SPECIFICATIONS accompanying the same shall in any way affect its obligation on the BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of this contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no suit or action shall be commenced hereunder by any claimant; (a) Unless claimant, other than one having a direct contract with the PRINCIPAL, shall have given written notice to any two of the following: The PRINCIPAL, the OWNER, or the SURETY above named within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished or for whom the work or same by registered mail or certified mail, postage prepaid, in an envelope address to the PRINCIPAL, OWNER, or SURETY, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer. (b) After the expiration of one (1) year following the date of which PRINCIPAL ceased work on said CONTRACT, it being understood, however that if any limitation embodied in the BOND is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

PROVIDED, FURTHER, that it is expressly agreed that the BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract not increasing the contract price more than 20 percent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the CONTRACT as so amended. The term "Amendment", wherever used in this BOND, and whether referring to this BOND of the Contract shall include any alteration addition, extension, or modification of any character whatsoever. PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of the other beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in 3 counterparts, each one of which shall be deemed an original, this the ____ day of _____, 202__.

ATTEST: _____
Principal

(Principal Secretary) BY _____(s)

(Address)
(SEAL)

(Witness as to Principal)

(Address)

(Surety)
ATTEST:

(Witness as to Surety) By _____
(Attorney-in-Fact)

(Address) (Address)

NOTE: Date of BOND must not be prior to date of Contract.

If CONTRACTOR is partnership, all partners should execute BOND. IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the Project is located.

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PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, (Corporation, Partnership, or Individual) hereinafter called PRINCIPAL, and

(Name of Surety)

(Address of Surety)

hereinafter called SURETY, are held and firmly bound unto

City of Greenville Engineering Department
1500 Beatty Street
Greenville, NC 27834

hereinafter called OWNER, in the total aggregate penal sum of _____

_____ Dollars (\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the PRINCIPAL entered into a certain contract with the OWNER, dated the _____ day of _____, 202____, a copy of which is hereto attached and made a part hereof for the construction of:

2024 Street Rehabilitation & Preservation Project

NOW, THEREFORE, if the PRINCIPAL shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the SURETY and during the one year guaranty period and if the PRINCIPAL shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed there under or the SPECIFICATIONS accompanying same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that it is expressly agreed that the BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract not increasing the contract price more than 20 percent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the CONTRACT as so amended. The term "Amendment", wherever used in this BOND, and whether referring to this BOND of the Contract shall include any alteration addition, extension, or modification of any character whatsoever. PROVIDED, FURTHER, that no final settlement between the OWNER and the PRINCIPAL shall abridge the right of the other beneficiary hereunder, whose claim may be unsatisfied. The OWNER is the only beneficiary hereunder.

IN WITNESS WHEREOF, this instrument is executed in _____ (Number) counterparts, each one of which shall be deemed an original, this the _____ day of _____, 202__.

ATTEST:
Principal _____

(Principal Secretary) By _____ (s)

(Address)
(SEAL)

(Witness as to Principal)

(Address)

(Surety)

ATTEST:

(Witness as to Surety)

By _____
(Attorney-in-Fact)

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Contract.

If CONTRACTOR is partnership, all partners should execute BOND. IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the Project is located.

CERTIFICATE OF INSURANCE

(SUBSTITUTE CERTIFICATE OF INSURANCE HERE)

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NOTICE OF AWARD (CITY OF GREENVILLE)

TO: Contractor
Address 1
City, State, Zip

FROM: City of Greenville
(Owner) 1500 Beatty Street
Greenville, NC 27834

PROJECT: 2024 Street Rehabilitation and Preservation Project

CONTRACT AMOUNT: \$ _____

You are hereby notified the City of Greenville has received your Bid for the above described project on _____ and determined you are the lowest responsible, responsive bidder. City Council awarded this project to your company in regular session on _____.

You are required to furnish the required Contractor's Performance Bond, Payment Bond, and Certificate of Insurance within ten (10) calendar days from the date of this Notice to you.

Upon receipt of the required Performance Bond, Payment Bond, and Certificate of Insurance, the City will insert these documents into the contract and initiate execution of the contract via DocuSign. You are required to execute the contract within five (5) days of receiving it via DocuSign.

If you fail to furnish the required Bonds and Certificates within ten (10) days from delivery of this Notice, or to execute said contract within five (5) days of receiving it via DocuSign, the City of Greenville will be entitled to consider all your rights arising out of its acceptance of your Bid as abandoned.

The City of Greenville looks forward to working with you to complete these important improvements for the citizens of Greenville.

Dated _____.

Owner: City of Greenville

BY: _____

Lisa Kirby, PE
Director of Engineering

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NOTICE TO PROCEED

DATE:

TO:

PROJECT: 2024 Street Rehabilitation & Preservation Project

Attached, please find a fully executed copy of the AGREEMENT and contract documents dated You are hereby notified to commence WORK in accordance with the AGREEMENT on or before....., 202__ and you are to complete the WORK within _____ consecutive calendar days thereafter.

The date of **COMPLETION** of all WORK is.....

Pre-Construction Conference conducted on

Owner: City of Greenville

BY:

Lisa Kirby, PE
Director of Engineering

ACCEPTANCE OF NOTICE

Receipt of the above **NOTICE TO PROCEED** is hereby acknowledged by

this the _____ day of _____, 202__.

By _____

Signature _____

Title _____

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**City of Greenville/Greenville Utilities Commission
Minority and Women Business Enterprise (MWBE) Program**

**City of Greenville
Construction Guidelines and Affidavits
\$100,000 and above**

These instructions shall be included with each bid solicitation.

City of Greenville/Greenville Utilities Commission Minority and Women Business Enterprise Program

\$100,000 and Construction Guidelines for MWBE Participants

Policy Statement

It is the policy of the City of Greenville and Greenville Utilities Commission to provide minorities and women equal opportunity for participating in all aspects of the City’s and Utilities’ contracting and procurement programs, including but not limited to, construction projects, supplies and materials purchases, and professional and personal service contracts.

Goals and Good Faith Efforts

Bidders responding to this solicitation shall comply with the MWBE program by making Good Faith Efforts to achieve the following aspiration goals for participation.

| | CITY | |
|--|------|-----|
| | MBE | WBE |
| Construction This goal includes Construction Manager at Risk. | 10% | 6% |

Bidders shall submit MWBE information with their bids on the forms provided. This information will be subject to verification by the City prior to contract award. **As of July 1, 2009, contractors, subcontractors, suppliers, service providers, or MWBE members of joint ventures intended to satisfy City MWBE goals shall be certified by the NC Office of Historically Underutilized Businesses (NC HUB) only.** Firms qualifying as “WBE” for City’s goals must be designated as a “women-owned business” by the HUB Office. Firms qualifying as “MBE” for the City’s goals must be certified in one of the other categories (i.e.: Black, Hispanic, Asian American, American Indian, Disabled, or Socially and Economically Disadvantaged). Those firms who are certified as both a “WBE” and “MBE” may only satisfy the “MBE” requirement. **Each goal must be met separately. Exceeding one goal does not satisfy requirements for the other.** A complete database of NC HUB certified firms may be found at <http://www.doa.nc.gov/hub/>. An internal database of firms who have expressed interest to do business with the City and GUC is available at www.greenvillenc.gov. However, the HUB status of these firms must be verified by the HUB database. The City shall accept NCDOT certified firms on federally funded projects only. Please note: A contractor may utilize any firm desired. However, for participation purposes, all MWBE vendors who wish to do business as a minority or female must be certified by NC HUB.

The Bidder shall make good faith efforts to encourage participation of MWBEs prior to submission of bids in order to be considered as a responsive bidder. Bidders are cautioned that even though their submittal indicates they will meet the MWBE goal, they should document their good faith efforts and be prepared to submit this information, if requested.

The MWBE’s listed by the Contractor on the **Identification of Minority/Women Business Participation** which are determined by the City to be certified shall perform the work and supply the materials for which they are listed unless the Contractors receive prior authorization from the City to perform the work with other forces or to obtain materials from other sources. If a contractor is proposing to perform all elements of the work with his own forces, he must be prepared to document evidence satisfactory to the owner of similar government contracts where he has self-performed.

Attach to Bid Attach to Bid Attach to Bid Attach to Bid Attach to Bid Attach to Bid Attach to Bid Attach to Bid
The Contractor shall enter into and supply copies of fully executed subcontracts with each MWBE or supply signed Letter(s) of Intent to the Project Manager after award of contract and prior to Notice to Proceed. Any amendments to subcontracts shall be submitted to the Project Manager prior to execution.

Instructions

The Bidder shall provide with the bid the following documentation:

- Identification of Minority/Women Business Participation
(if participation is zero, please mark zero—Blank forms will be considered nonresponsive)
- Affidavit A (if subcontracting)

OR

- Identification of Minority/Women Business Participation
(if participation is zero, please mark zero—Blank forms will be considered nonresponsive)
- Affidavit B (if self-performing; must attest that bidder does not customarily subcontract work on this type of project—includes supplies and materials)

Within 72 hours or 3 business days after notification of being the apparent low bidder who is subcontracting anything must provide the following information:

- Affidavit C (if aspirational goals are met or are exceeded)

OR

- Affidavit D (if aspirational goals are not met)

After award of contract and prior to issuance of notice to proceed:

- Letter(s) of Intent or Executed Contracts

****With each pay request, the prime contractors will submit the Proof of Payment Certification, listing payments made to MWBE subcontractors.**

*****If a change is needed in MWBE Participation, submit a Request to Change MWBE Participation Form. Good Faith Efforts to substitute with another MWBE contractor must be demonstrated.**

Minimum Compliance Requirements:

All written statements, affidavits, or intentions made by the Bidder shall become a part of the agreement between the Contractor and the City for performance of contracts. Failure to comply with any of these statements, affidavits or intentions or with the minority business guidelines shall constitute a breach of the contract. A finding by the City that any information submitted (either prior to award of the contract or during the performance of the contract) is inaccurate, false, or incomplete, shall also constitute a breach of the contract. Any such breach may result in termination of the contract in accordance with the termination provisions contained in the contract. It shall be solely at the option of the City whether to terminate the contract for breach or not. In determining whether a contractor has made Good Faith Efforts, the CITY will evaluate all efforts made by the Contractor and will determine compliance in regard to quantity, intensity, and results of these efforts.

City of Greenville **AFFIDAVIT A – Listing of Good Faith Efforts**

County of _____

(Name of Bidder)

Affidavit of _____

I have made a good faith effort to comply under the following areas checked:

Bidders must earn at least 50 points from the good faith efforts listed for their bid to be considered responsive. (1 NC Administrative Code 30 I.0101)

- 1 – (10 pts)** Contacted minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed.
- 2 --(10 pts)** Made the construction plans, specifications and requirements available for review by prospective minority businesses, or providing these documents to them at least 10 days before the bids are due.
- 3 – (15 pts)** Broken down or combined elements of work into economically feasible units to facilitate minority participation.
- 4 – (10 pts)** Worked with minority trade, community, or contractor organizations identified by the Office of Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.
- 5 – (10 pts)** Attended prebid meetings scheduled by the public owner.
- 6 – (20 pts)** Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors.
- 7 – (15 pts)** Negotiated in good faith with interested minority businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.
- 8 – (25 pts)** Provided assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit.
- 9 – (20 pts)** Negotiated joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.
- 10 - (20 pts)** Provided quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.

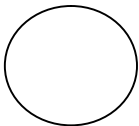
The undersigned, if apparent low bidder, will enter into a formal agreement with the firms listed in the Identification of Minority/Women Business Participation schedule conditional upon scope of contract to be executed with the Owner. Substitution of contractors must be in accordance with GS143-128.2(d) Failure to abide by this statutory provision will constitute a breach of the contract.

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

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

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

Notary Public _____

My commission expires _____

**City of Greenville --AFFIDAVIT B-- Intent to Perform
Contract with Own Workforce.**

County of _____

Affidavit of _____

(Name of Bidder)

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

_____ contract.

(Name of Project)

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

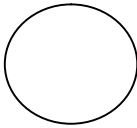
The Bidder agrees to provide any additional information or documentation requested by the owner in support of the above statement.

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

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

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

Notary Public _____

My commission expires _____

City of Greenville - AFFIDAVIT C - Portion of the Work to be Performed by MWBE Firms

County of _____

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the portion of the work to be executed by MWBE businesses as defined in GS143-128.2(g) and the COG/CITY MWBE Plan sec. III is equal to or greater than 16% of the bidders total contract price, then the bidder must complete this affidavit. This affidavit shall be provided by the apparent lowest responsible, responsive bidder within **72 hours** after notification of being low bidder.

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

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

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

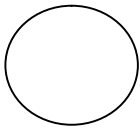
| Name and Phone Number | *MWBE Category | Work description | Dollar Value |
|-----------------------|----------------|------------------|--------------|
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*Minority categories: Black, African American (**B**), Hispanic or Latino (**L**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**S**) Disabled (**D**)

Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with MWBE Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

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

Date: _____ Name of Authorized Officer: _____



Signature: _____

Title: _____

State of _____, County of _____

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

Notary Public _____

My commission expires _____

City of Greenville **AFFIDAVIT D – Good Faith Efforts**

County of _____

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the goal of 16% participation by minority/women business **is not** achieved, the Bidder shall provide the following documentation to the Owner of his good faith efforts:

Affidavit of _____ I do hereby certify
 that on the _____

(Name of Bidder)

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

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

| Name and Phone Number | *MWBE Category | Work description | Dollar Value |
|-----------------------|----------------|------------------|--------------|
| | | | |
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*Minority categories: Black, African American (**B**), Hispanic or Latino (**L**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**S**) Disabled (**D**)

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

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

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

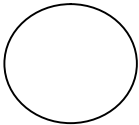
Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with MWBE Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

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

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

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

Notary Public _____

My commission expires _____

LETTER OF INTENT MWBE Subcontractor Performance

Please submit this form or executed subcontracts with MWBE firms after award of contract and prior to issuance of notice to proceed.

PROJECT: _____
(Project Name)

TO: _____
(Name of Prime Bidder/Architect)

The undersigned intends to perform work in connection with the above project as a:

____ Minority Business Enterprise _____ Women Business Enterprise

The MWBE status of the undersigned is certified the NC Office of Historically Underutilized Businesses (required). ___ Yes ___ No

The undersigned is prepared to perform the following described work or provide materials or services in connection with the above project at the following dollar amount:

| Work/Materials/Service Provided | Dollar Amount of Contract | Projected Start Date | Projected End Date |
|--|----------------------------------|-----------------------------|---------------------------|
| | | | |
| | | | |

(Date)

(Address)

(Name & Phone No. of MWBE Firm)

(Name & Title of Authorized Representative of MWBE)

(Signature of Authorized Representative of MWBE)

REQUEST TO CHANGE MWBE PARTICIPATION

(Submit changes only if notified as apparent lowest bidder, continuing through project completion)

Project: _____

Bidder or Prime Contractor: _____

Name & Title of Authorized Representative: _____

Address: _____ **Phone #:** _____

_____ **Email Address:** _____

Total Contract Amount (including approved change orders or amendments): \$ _____

Name of subcontractor: _____

Good or service provided: _____

Proposed Action:

Replace subcontractor

Perform work with own forces

For the above actions, you must provide one of the following reasons (Please check applicable reason):

The listed MBE/WBE, after having had a reasonable opportunity to do so, fails or refuses to execute a written contract.

The listed MBE/WBE is bankrupt or insolvent.

The listed MBE/WBE fails or refuses to perform his/her subcontract or furnish the listed materials.

The work performed by the listed subcontractor is unsatisfactory according to industry standards and is not in accordance with the plans and specifications; or the subcontractor is substantially delaying or disrupting the progress of the work.

If replacing subcontractor:

Name of replacement subcontractor: _____

The MWBE status of the contractor is certified by the NC Office of Historically Underutilized Businesses (required). ___ Yes ___ No

Dollar amount of original contract \$ _____

Dollar amount of amended contract \$ _____

Other Proposed Action:

___ Increase total dollar amount of work
___ Decrease total dollar amount of work

___ Add additional subcontractor
___ Other

Please describe reason for requested action: _____

If adding additional subcontractor:*

The MWBE status of the contractor is certified by the NC Office of Historically Underutilized Businesses (required). ___ Yes ___ No

**Please attach Letter of Intent or executed contract document*

Dollar amount of original contract \$ _____

Dollar amount of amended contract \$ _____

Interoffice Use

Only:

Approval __Y



2024 Street Rehabilitation & Preservation Project

Proof of Payment Certification MWBE Contractors, Suppliers, Service Providers

Project Name: _____

Prime Contractor: _____

Current Contract Amount (including change orders): \$ _____

Requested Payment Amount for this Period: \$ _____

Is this the final payment? Yes No

| Firm Name | MWBE Category* | Total Amount Paid from this Pay Request | Total Contract Amount (including changes) | Total Amount Remaining |
|-----------|----------------|---|---|------------------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

*Minority categories: Black, African American (**B**), Hispanic or Latino (**L**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**S**) Disabled (**D**)

Date: _____

Certified By: _____

Name

Title

Signature

INTENTIONALLY LEFT BLANK

TAX STATEMENT AND CERTIFICATION

This is to certify that the foregoing or attached statements are a true and complete statement of all State and County Sales or Use Tax paid by the undersigned contractor from _____, 20__, to _____, 20__, inclusive for the materials and equipment that were or will become a part of the construction of the **2024 Street Rehabilitation & Preservation Project**.

(THE FOLLOWING PORTION TO BE FILLED OUT BY GENERAL CONTRACTOR ONLY.)

It is further certified that _____

Are all of the subcontractors that are, or were engaged by the contractor in the performance of this contract and whose tax statements are also enclosed herewith.

CONTRACTOR OR SUBCONTRACTOR

Sworn and subscribed before me

This ____ day of _____, 20__

NOTARY PUBLIC

My Commission Expires: _____

INTENTIONALLY LEFT BLANK

**CONTRACTOR'S AFFIDAVIT
RELEASE OF LIEN AND WAIVER OF CLAIM**

STATE OF: _____ COUNTY OF: _____

_____, _____
(Name) (Title)

_____, being first duly sworn deposes and says that:
(Contractor)

1. The undersigned is authorized to execute this Affidavit, Release of Lien and Waiver of Claim on behalf of the Contractor and has personal knowledge of all facts set forth herein;
2. This Affidavit, Release of Lien and Waiver of Claim is made concerning the construction of the following project:

Project Name: **2024 Street Rehabilitation & Preservation Project**

Project No.: _____

3. All payrolls, material bills, sales tax, social security tax, state and federal unemployment insurance, and all other liabilities and taxes owed by the Contractor and arising in any manner from the above-described project have been paid in full;
4. No liens or claims exists in favor of any supplier of materials or labor or in favor of any subcontractor furnishing materials or labor on the above-described project;
5. Notwithstanding the foregoing, if the City of Greenville or property of the City of Greenville is subject to any claim or lien which arises in any manner from the failure of the Contractor to pay any liability described above, the Contractor will indemnify and hold the City of Greenville harmless for any amount which the City of Greenville is required to pay to discharge such lien or settle such claim and further will pay the City of Greenville's expenses, costs, and attorney fees incurred in connection therewith;
6. All claims, suits, and proceedings of every name, description, or nature arising out of the above project against the City of Greenville, its officers, employees and agents have been settled;
7. The Contractor releases and waives any and all claims of every type and description, which the Contractor may have against the City of Greenville arising in any manner from the construction of the above-described project.

(Contractors Signature)

Sworn to and subscribed before me _____ this the ____ day of _____, 202__.

(Title)

(Date)

Notary Public

My Commission Expires _____ (Date)

INTENTIONALLY LEFT BLANK

GENERAL CONDITIONS

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

**STANDARD GENERAL CONDITIONS
OF THE CONSTRUCTION CONTRACT**

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by

ACEC

AMERICAN COUNCIL OF ENGINEERING COMPANIES



ASCE American Society
of Civil Engineers

P/E National Society of
Professional Engineers
Professional Engineers in Private Practice

AMERICAN COUNCIL OF ENGINEERING COMPANIES

ASSOCIATED GENERAL CONTRACTORS OF AMERICA

AMERICAN SOCIETY OF CIVIL ENGINEERS

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE

A Practice Division of the

NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Endorsed by



CONSTRUCTION SPECIFICATIONS INSTITUTE

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor (EJCDC C-520 or C-525, 2007 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the Narrative Guide to the EJCDC Construction Documents (EJCDC C-001, 2007 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (EJCDC C-800, 2007 Edition).

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
 7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
 10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 1 of the Specifications.
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, material man, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an

addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 Delivery of Bonds and Evidence of Insurance

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 Copies of Documents

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on

Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefore.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

- A. Standards, Specifications, Codes, Laws, and Regulations
 1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. The provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. The provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;
2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or
3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier shall not:
1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
 2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefore as provided in Paragraph 10.05.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 - 1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
 - 2. Those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 - 1. The completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
 - 2. Other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 - 3. Any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any “technical data” on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer’s Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner’s obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer’s findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor’s cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and

contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

- c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefore as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the

consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefore as provided in Paragraph 10.05.

4.05 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefore as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefore as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 Performance, Payment, and Other Bonds

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 Licensed Sureties and Insurers

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverage's so required. Such surety and insurance companies shall also

meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.
- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 - 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 - 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 - 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

- a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting there from; and
 6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- B. The policies of insurance required by this Paragraph 5.04 shall:
1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insured's (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insured's, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insured's, and the insurance afforded to these additional insured's shall provide primary coverage for all claims covered thereby;
 2. include at least the specific coverage's and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
 3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
 4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
 5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
 6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;
 2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
 3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
 4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
 5. allow for partial utilization of the Work by Owner;
 6. include testing and startup; and
 7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.
- B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors,

members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.

- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.
- E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insured's or loss payees there under. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's

interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

- A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner’s written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.
 - 1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

- 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
 - 3) it has a proven record of performance and availability of responsive service.
- b. Contractor certifies that, if approved and incorporated into the Work:
- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

- a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
- b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefore. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
- c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - 1) shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design,
 - b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
 - 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

- c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
 - 3) will identify:
 - a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and
 - 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.
- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
- C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.
- D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be

required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.
- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner,

Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured's or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefore as provided in Paragraph 10.05.

6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

- 1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
- 2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
- 3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought

by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and

shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is

required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

- A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.
1. *Shop Drawings:*
 - a. Submit number of copies specified in the General Requirements.
 - b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.
 2. *Samples:*
 - a. Submit number of Samples specified in the Specifications.
 - b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.
- B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Submittal Procedures:*
1. Before submitting each Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 - 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 - 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 - 1. observations by Engineer;
 - 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 - 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 - 4. use or occupancy of the Work or any part thereof by Owner;
 - 5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
 - 6. any inspection, test, or approval by others; or
 - 7. any correction of defective Work by Owner.

6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting there from but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 Related Work at Site

- A. Owner may perform other work related to the Project at the Site with Owner’s employees, or through other direct contracts therefore, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefore as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner’s employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.
- C. If the proper execution or results of any part of Contractor’s Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor’s Work. Contractor’s failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor’s Work except for latent defects and deficiencies in such other work.

7.02 Coordination

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
 - 1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 - 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 - 3. the extent of such authority and responsibilities will be provided.

- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

- A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or

continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefore as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work there under. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not

exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefore as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
 - 1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
 - 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
 - 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data

shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
1. deny the Claim in whole or in part;
 2. approve the Claim; or
 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 Cost of the Work

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of

said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not

limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.
- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 *Allowances*

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:*
 1. Contractor agrees that:
 - a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance:*
 1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to

the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
 - 1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 - 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee*: The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or
2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefore as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or

neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 Notice of Defects

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 Access to Work

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefore as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefore as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or
 2. correct such defective Work; or
 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting there from.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting there from) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefore as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefore as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

- A. Applications for Payments:

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

- a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
 - d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment:*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before

final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
 - 2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and
 - d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying

documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due:

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

- A. The making and acceptance of final payment will constitute:
 1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
 2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will justify termination for cause:
1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
 2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 3. Contractor's repeated disregard of the authority of Engineer; or
 4. Contractor's violation in any substantial way of any provisions of the Contract Documents.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:
1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
 2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
 3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when

so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
 - 3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
 - 4. reasonable expenses directly attributable to termination.
- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days

to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 Methods and Procedures

- A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.
- B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.
- C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:
1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
 2. agrees with the other party to submit the Claim to another dispute resolution process; or
 3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 Giving Notice

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

- A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SUPPLEMENTARY GENERAL CONDITIONS

1. SUPPLEMENTARY GENERAL CONDITIONS

The following supplementary general conditions modify, change, delete from or add to the "Standard General Conditions of the Construction Contract", EJCDC Document C-700, Copyright 2007 Edition. Where any article of the general conditions is modified or any paragraph, subparagraph, or clause thereof is modified or deleted by these supplementary general conditions, the unaltered provisions of that article, paragraph, subparagraph, or clause shall remain in effect.

2. CONTRACTOR'S RESPONSIBILITIES

Except where the Contractor is an individual and gives his personal superintendence to the work, the Contractor shall provide a competent superintendent, satisfactory to the City of Greenville and the Engineer, on the work at all times during working hours with full authority to act for him. The Contractor shall also provide an adequate staff for the proper coordination and expediting of his work. The City of Greenville may require the Contractor to dismiss from the work such employee or employees as the City of Greenville or the Engineer may deem incompetent, careless, or insubordinate.

3. SUBCONTRACTS

The Contractor shall not execute an agreement with a Subcontractor or permit any Subcontractor to perform any work included in this Contract until he has submitted a non-collusion affidavit from the Subcontractor in substantially the form provided and has received written approval of such Subcontractor from the City of Greenville.

4. MUTUAL RESPONSIBILITY OF CONTRACTORS

If through acts or neglect on the part of the Contractor, any other Contractor or any Subcontractor shall suffer loss or damage on the work, the Contractor shall settle with such other Contractor or Subcontractor by agreement or arbitration, if such other Contractor or Subcontractor will so settle. If such other Contractor or Subcontractor shall assert any claim against the City of Greenville on account of any damage alleged to have been so sustained, the City of Greenville will notify the Contractor, who shall defend at his own expense any suit based upon such claim, and, if any judgment or claims against the City of Greenville shall be allowed, the Contractor shall pay or satisfy such judgment or claim and pay all costs and expenses in connection therewith.

5. PAYMENTS SUBJECT TO SUBMISSION OF CERTIFICATES

Each payment to the Contractor by the City of Greenville shall be made subject to submission by the Contractor of all written certificates required of him and his Subcontractors.

6. DELAYS AND LIQUIDATED DAMAGES

- a. Liquidated Damages for Delays: If the work is not completed within the time stipulated in Article 3.1 of the AGREEMENT thereof, including any extensions of time for excusable delays as herein provided, the Contractor shall pay to the City of Greenville liquidated damages for each calendar day of delay, until the work is completed, the amount as set forth in Article 3.2 of the AGREEMENT thereof and the Contractor and his sureties shall be liable to the City of Greenville for the amount thereof.

- b. The Contractor shall promptly notify the City of Greenville and Engineer within ten (10) days in writing of any probable cause of a delay. Upon receipt of such notification, the City of Greenville shall ascertain the facts and the cause and extent of delay. If upon the basis of the facts and the terms of this Contract the delay is properly excusable, the City of Greenville shall extend the time for completing the work for a period of time commensurate with the period of excusable delay.

7. REQUESTS FOR SUPPLEMENTARY INFORMATION

It shall be the responsibility of the Contractor to make timely requests of the City of Greenville for any additional information not already in his possession which should be furnished by the City of Greenville under the terms of this Contract, and which he will require in the planning and execution of the work. Such requests may be submitted from time to time as the need is approached, but each shall be filed in ample time to permit appropriate action to be taken by all parties involved so as to avoid delay. Each request shall be in writing and list the various items and the latest date by which each will be required by the Contractor. The first list shall be submitted within two (2) weeks after Contract award and shall be as complete as possible at that time. The Contractor shall, if requested, furnish promptly any assistance and information the Engineer may require in responding to these requests of the Contractor. The Contractor shall be fully responsible for any delay in his work or to others arising from his failure to comply fully with the provisions of this section.

8. TEMPORARY FACILITIES AND CONTROLS

The Contractor shall provide and pay for all utilities, water, lights, power, and all temporary construction and facilities of every nature whatever necessary to execute, complete, and deliver the work.

The Contractor shall provide and maintain in a neat and sanitary condition such accommodations for the use of his employees as may be necessary to comply with the requirements and regulations of the Department of Health, or of the other bodies, or tribunals, having jurisdiction thereof. He shall commit no public nuisance.

The Contractor shall be limited to work with the right of way limits of the roadway.

The Contractor shall provide and be responsible for all barricades, warning lights, signs, signal and flagmen, and all else required to allow safe vehicular movement in the vicinity of construction operations.

The Contractor shall adhere to all applicable requirements of Part VI of the "Manual on Uniform Traffic Control Devices for Streets and Highways", published by the US Department of Transportation, Federal Highway Administration, latest edition, the "North Carolina Construction and Maintenance Operations Supplement" thereto, latest edition, prepared by the North Carolina Department of Transportation, and the "Work Zone Traffic Control Standards and Guidelines" published by the US Department of Transportation.

The Contractor shall also be guided by requirements promulgated by officials of the City of Greenville. The Contractor shall implicitly follow instructions given by said officials.

In addition to complying with safety requirements set forth in the General Conditions, the Contractor shall:

Inform himself of and fully comply with all applicable requirements of the Williams-Steiger Occupational Safety and Health Act of 1970 (p.L.91596) in the performance of work required under this Contract.

The Contractor shall adhere to the rules, regulations, and interpretations of the Secretary of the Department of Labor (29 CFR Part 1518, 36 F.R., 7340, April 17, 1971) relating to safety and health for construction which are hereby incorporated into these requirements.

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

9. PRECONSTRUCTION CONFERENCE

A pre-construction conference shall be held as provided in the General Conditions, Article 2.06, after review by the Engineer of the construction progress schedules submitted by the Contractor.

In addition to the representatives required to attend this conference, the Engineer will request that representatives of major subcontractors and affected utility companies and governmental agencies also attend the conference.

10. MATERIALS TESTING

General: The costs of quality control testing for materials incorporated into the work of the Project, to include but not be limited to, asphalt concrete pavements, concrete work, aggregate base course, and soil materials, shall be incidental to other line items of the Contract. Testing shall be performed as herein required and/or directed by the Engineer.

The City of Greenville shall perform quality assurance testing through an independent testing firm with whom the City will contract directly. The Contractor shall be responsible for all testing costs with results which do not meet or exceed the specified standards, with such costs being deducted from the next partial payment. The Engineer shall have the option to reject any materials or workmanship not meeting or exceeding the specification requirements.

The Contractor shall be responsible for all costs of providing mix designs, job-mix formulas and associated materials evaluations required for asphalt concrete materials.

11. ARBITRATION - Delete Article 16 in its entirety.

12. CONTROL OF UTILITIES - Add the following sentence to the end of General Conditions, Article 7, paragraph 7.03A:

“Utilities maintained and operated by Greenville Utilities Commission are not under the control of Owner.”

END OF SUPPLEMENTARY CONDITIONS

INTENTIONALLY LEFT BLANK

STANDARD SPECIAL PROVISIONS

1. STANDARD SPECIFICATIONS

The 2018 edition of the Standard Specifications for Roads and Structures of the North Carolina Department of Transportation hereinafter referred to as the 'Standard Specifications' shall apply on all portions of the project unless otherwise specified herein.

2. SUPERVISION BY THE CONTRACTOR

At the time work is actually performed, the contractor shall have present on the project one individual who has been authorized to act in a supervisory capacity over all work on the project including work subcontracted. The individual who has been so authorized shall be experienced in the type of work being performed and is to be fully capable of managing, directing, and coordinating the work; of reading and thoroughly understanding the contract and of receiving and carrying out directions from the Engineer or his authorized representatives. He shall be an employee of the contractor, unless otherwise approved by the Engineer.

3. DEFINITION OF TERMS:

Whenever the following terms are used in the Standard Specifications, in any of the contract documents, or in the plans, the intended meaning of such terms shall be as follows:

- a. "State" or "Department" shall be replaced by the words 'City of Greenville'.
- b. "Engineer" or "Resident Engineer" shall be replaced by the words "Director of Engineering or his/her duly authorized representative".
- c. "Sampling and Testing by Department" shall be replaced by the words "Sampling and Testing by City or its approved testing agency".
- d. "Inspection by Department" shall be replaced by the words "Inspection by the City or its duly authorized representative".
- e. "City Standard" shall refer to the "Greenville Manual of Standard Designs and Details".
- f. "City Water Main Standard" and "City Sanitary Sewer Standard" shall refer to the latest edition of the "Greenville Manual of Standard Designs and Details".
- g. "Landscape Construction Standards, shall refer to the Ground Cover Section of the "Manual of Standard Designs and Details" for construction with the jurisdiction of the City Of Greenville.
- h. The term "Abnormal weather conditions" as mentioned in Paragraph 12.03 of the General Conditions, or elsewhere in the General Conditions, Standard Special Provisions, other Contract Documents or Plans, is hereby revised to "weather conditions," and shall be defined as weather occurring in any day in which at least 0.2" of rainfall precipitation or greater occurs, as measured by an accurate rain gauge provided by the Contractor at an uncovered location onsite, from the end of normal work hours the previous day through normal work hours of the same day.

- i. "Normal Work Hours" shall be defined as Monday through Friday, 8:00am to 5:00pm.
 - j. "Non-Workday" shall be defined as all City holidays, weekends, or any day the Contractor has indicated no work is planned. This shall include days during which the Contractor has demobilized from the project.
4. ADDENDA:
- Addenda will be mailed, either electronically or via US Postal Service, to "Bidders of Record", posted to the City website, and will be on file in the Office of the Engineer. It shall be the Bidder's responsibility to make inquiry as to the Addenda issued. All such Addenda shall become part of the contract and all Bidders shall be bound by such Addenda whether or not received or acknowledged by the Bidder.
5. SUBSURFACE INVESTIGATION:
- The Contractor shall make his own subsurface investigations. Any information obtained by the City as a result of its own subsurface investigations will be made available upon request. This information (when available) is provided for informational purposes only and shall not relieve the Contractor of making his own investigations. The Contractor shall obtain all necessary permits prior to making any pavement cuts on existing streets.
6. AWARDING OF CONTRACT:
- The City of Greenville will award the contract or contracts conditioned upon funds being available for construction and other governmental approvals as may be required. The contract will be awarded to the lowest responsible, responsive Bidder or Bidders, as required by North Carolina General Statutes. Consideration will be given only to proposals from Contractors who are properly licensed; bonded, experienced in the class of work proposed and who can refer to projects of similar magnitude and character as have been completed by them. The City also reserves the right to reject any and all proposals and to waive informalities or technicalities as it may deem to be in its best interest.
7. CONTRACT BONDS:
- Failure of the Contractor to provide the required bonds, insurance, and executed contract within ten (10) days after he receives the notice of award shall be just cause for the forfeiture of the bid bond or bid deposit and rescinding the award of the contract.
- Award may then be made to the next responsible bidder or the work may be re-advertised and constructed under contract or otherwise as the City may decide.
- Within ten days of notification of award of contracts equal to or exceeding \$100,000, the Contractor shall secure and post a Performance Bond and Labor and Material Payment Bond, each in the amount of 100% of the Total Contract Sum. All such bonds shall be issued by a surety acceptable to the City. The City shall be named as the beneficiary. Cash bonds will not be accepted

8. NOTICE TO PROCEED

A Notice to Proceed will be issued to the Contractor upon receipt of a fully executed contract, bonds, insurance certificates, receipt of approval by other governmental agencies (if required) and any other documentation required by the Engineer.

9. MATERIALS AND EQUIPMENT STORAGE:

The Contractor shall be responsible for locating and providing storage areas for construction materials and equipment. The material and equipment storage shall comply with the local and state ordinances throughout the construction period. The Contractor shall restore the storage area to its original condition upon completion of the project or upon such time as directed by the Engineer. Such restoration shall be at no additional cost to the City.

The Contractor shall be responsible for the safeguarding of materials and equipment against fire, theft and vandalism and shall not hold the City responsible in any way for occurrences of same. The Contractor shall furnish and erect, at no additional cost, whatever works as may be necessary for the protection of the public, including but not limited to barricades, fences, etc. Prior to final payment being made, the Contractor shall obtain a release from the property owner of the storage area utilized for the project.

10. EXISTING UTILITIES:

The City has contacted all involved utility owners of the effect of this project on their respective utility.

Construction plans and anticipated construction schedules have been provided to the utility owners. Each utility owner will be requested to attend the preconstruction conference to discuss potential conflicts and their schedule for relocation where required. All adjustments or relocations will be made by the utility owner unless otherwise indicated in the Contract Documents.

The owners of utilities in this project may include:

Greenville Utilities Commission
N/F Centurylink Communications
N/F Suddenlink Communications
Metronet
NCDOT
Eastern Pines Water Corporation
SEGRA

The Contractor shall adhere to the provisions of 1985 Underground Damage Prevention Act North Carolina General Statutes 887 Chapter 785 Senate Bill 168 Article 3. To assist the contractor and utility owners in meeting the requirements of this law, there is a "one call system" called "NC ONECALL". Most major utilities with underground facilities in the State subscribe to this service. For calls originating within North Carolina, The NC ONECALL telephone number is

811 or 1-800-632-4949. The Contractor shall include the cost of any coordination and cooperation of utilities in his bid.

No additional compensation shall be allowed for delays or inconveniences sustained by the Contractor due to utility relocation or adjustments. No additional payment will be made for re-mobilization required by the utility's failure to relocate utility at the request of the Contractor. The Contractor should refer to Section 108-10 (B) paragraph 3 of the Standard Specifications.

Where changes to utility facilities are to be made solely for the convenience of the Contractor, it shall be the Contractor's responsibility to arrange for such changes, and the Contractor shall bear all costs of such changes.

11. CONSTRUCTION STAKES, LINES AND GRADES:

Construction stakes, lines and grades are the responsibility of the Contractor. This work is incidental to the project scope of work. The entire cost of this work to be distributed among the various other pay items.

12. TAXES & LICENSES:

North Carolina sales and/or use taxes are applicable to purchases of building materials and other tangible personal property by Contractors for use in performing City contracts. Use tax is also due on construction equipment brought into North Carolina for use in the performance of City contracts (N.C. Revenue Laws, G.S. 105-164.4 and G.S. 105-164.6). Contractors are liable for payment of applicable privilege licenses (N.C. Revenue Laws, G.S. 105-54). Contractors are also liable for payment of applicable franchise, corporate income, license and withholding taxes (N.C. Revenue Laws, G.S. 105-122, G.S. 105-123, G.S. 105-134 and G.S. 105-163.2).

13. EROSION AND SEDIMENTATION CONTROL MEASURES:

The Contractor shall install and maintain all erosion and sedimentation control measures and devices necessary to comply with the Erosion and Sedimentation Control Plan and applicable local and state ordinances and laws. All erosion and sedimentation control measures and devices shall be installed prior to beginning clearing or grading operations. Such devices shall be maintained in proper working condition from installation throughout the duration of the project.

The Contractor shall indemnify and hold harmless the City for any penalties imposed against the City by any local or state agency for the Contractor's failure to install and properly maintain erosion and sedimentation control devices. The Contractor shall immediately correct any deficiencies in erosion and sedimentation measures identified by the City or local or state agency. If the Contractor fails to correct the deficiencies within 24 hours after notification, the City will have such corrections performed and assess the cost of these corrections plus a 100% surcharge against the Contractor.

If any borrow or waste areas are to be utilized, it will be the responsibility of the Contractor to notify the property owner that the property owner is responsible for any damage occurring from the site, either as part of the agreement with the Contractor, or on his own. All work, sediment control structures, and seeding will be at the cost of the property owner or Contractor. The City will not participate in the cost of this work on the waste or borrow areas. Prior to final payment

being made, the Contractor shall obtain a release from the property owner of borrow or waste site utilized for the project.

14. HAZARDOUS MATERIALS:

If the Contractor encounters any materials considered or suspected of being hazardous, he shall immediately secure the area and contact the Greenville Fire Department at (252) 329-4397 for further instructions.

15. OSHA REQUIREMENTS

GENERAL CONTRACTOR SAFETY REQUIREMENTS

Supplement to OSHA parts 1910 and 1926.

PART 1 - GENERAL CONTRACTOR REQUIREMENTS

1.1 The Contractor shall comply with OSHA (Occupational Safety and Health Administration) Parts 1910 and 1926, Construction Industry Standards and Interpretations, and with this specification.

1.2 Requests for variances or waivers from this specification are to be made to the Engineer in writing supported by evidence that every reasonable effort has been made to comply with the contractual requirements. A written request for waiver or a variance shall include:

- a. Specific reference to the provision or standard in question;
- b. An explanation as to why the waiver is considered justified; and
- c. The Contractor's proposed alternative, including technical drawings, materials, or equipment specifications needed to enable the Engineer and City's Risk Manager to render a decision.

1.3 No waiver or variance will be approved if it endangers any person. The Contractor shall not proceed under any requested revision of a provision until the Engineer has given written approval. The

Contractor is to hold and save harmless the City of Greenville, North Carolina free from any claims or causes of action whatsoever resulting from the Contractor or subcontractors proceeding under a waiver or approved variance.

1.4 Copies of OSHA Parts 1910 and 1926, Construction Industry Standards and Interpretations, may be obtained from:

Superintendent of Document
U.S. Government Printing Office
Washington, DC 20402

1.5 SAFETY PROGRAM

Each Contractor is to demonstrate that he or she has facilities for conducting a safety program commensurate with the work under contract. The Contractor is to submit in writing a proposed comprehensive safety program to the Contracting Officer for approval before the start of

construction operations. The program is to specifically state what provisions the Contractor proposes to take for the health and safety of all employees, including details relevant to the work to be done, the hazards associated with the work, and the actions that will be necessary to minimize the identified hazards.

1.6 PRECONSTRUCTION SAFETY MEETING

Representatives for the Contractor are to meet with the Contracting Officer or the Contracting Officer's representative before the start of construction to discuss the safety program and the implementation of all health and safety standards pertinent to the work under this contract.

1.7 JOINT SAFETY POLICY COMMITTEE

The Contractor, or designated onsite representative, is to participate in monthly meetings of a Joint Safety Policy Committee, composed of Contracting Local Organization and Contractor supervisory personnel. At these meetings, the Contractor's project manager and the Contracting Officer will review the effectiveness of the Contractor's safety effort, resolve current health and safety problems, and coordinate safety activities for upcoming work.

1.8 SAFETY PERSONNEL

Each Contractor is to designate a competent supervisory employee satisfactory to the Contracting Officer to administer the safety program.

1.9 SAFETY MEETINGS

A minimum of one on-the-job or toolbox safety meeting is to be conducted each week by all field supervisors or foremen and attended by mechanics and all construction personnel at the job site. The Contractor is to also conduct regularly scheduled supervisory safety meetings at least monthly for all levels of job supervision.

1.10 SAFETY INSPECTION

The Contractor shall perform frequent and regular safety inspections of the job site, materials, and equipment, and shall correct deficiencies.

1.11 FIRST AID TRAINING

Every Contractor foreman's work crew must include an employee who has a current first aid certificate from the Mine Safety and Health Administration, American Red Cross, or other state-approved organization.

1.12 REPORTS

Each Contractor is to maintain an accurate record of all job-related deaths, diseases, or disabling injuries. The records shall be maintained in a manner approved the Engineer. A copy of all reports is to be provided to the Engineer. All fatal or serious injuries are to be reported immediately to the Engineer who will contact the City of Greenville's Risk Manager; and every assistance is to be given in the investigation of the incident, including submission of a comprehensive narrative report to the Engineer. Other occurrences with serious accident potential, such as equipment failures, slides, and cave-ins, must also be reported immediately. The Contractor is to assist and cooperate fully with the Engineer and City's Risk Manager in conducting accident investigations. The Engineer is to be furnished all information and data pertinent to investigation of an accident.

PART 2 - FIRST AID AND MEDICAL FACILITIES

2.1 FIRST AID KITS. A 16-unit first aid kit approved by the American Red Cross is to be provided at accessible, well-identified, locations at the ratio of at least one kit for each 25 employees. The first aid kits are to be moisture-proof and dust-tight, and the contents of the kits are to be replenished as used or as they become ineffective or outdated.

2.2 EMERGENCY FIRST AID. At least one employee certified to administer emergency first aid must be available on each shift and duly designated by the Contractor to care for injured employees. The names of the certified employees shall be posted at the job site.

2.3 COMMUNICATION AND TRANSPORTATION. Prior to the start of work, the Contractor is to make necessary arrangements for prompt and dependable communications, transportation, and medical care for injured employees. At least one stretcher and two blankets shall be readily available for transporting injured employees.

2.4 FIRST AID AND MEDICAL REPORTS. The Contractor is to maintain a record system for first aid and medical treatment on the job site. Such records are to be readily available to the Contracting Officer and are to include--

- a. A daily treatment log listing chronologically all persons treated for occupational injuries and illnesses;
- b. Cumulative record of injury for each individual;
- c. Monthly statistical records of occupational injuries, classified by type and nature of injury; and
- d. Required records for worker's compensation.

2.5 SIGNS AND DIRECTIONAL MARKINGS. Adequate identification and directional markers are to be provided to readily denote the location of all first aid stations.

2.6 EMERGENCY LISTING. A listing of telephone numbers and addresses of doctor, rescue squad, hospital, police, and fire departments is to be provided at all first aid locations.

PART 3 - PHYSICAL QUALIFICATION OF EMPLOYEES

3.1 GENERAL REQUIREMENTS. Persons employed throughout the contract are to be physically qualified to perform their assigned duties. Employees must not knowingly be permitted or required to work while their ability or alertness is impaired by fatigue, illness, or any other reason that may jeopardize themselves or others.

3.2 HOIST OPERATIONS. Operators of cranes, cableways, and other hoisting equipment shall be examined annually by a physician and provided with a certification stating that they are

physically qualified to safely operate hoisting equipment. The Contractor is to submit a copy of each certification to the Contracting Officer.

3.3 MOTOR VEHICLE OPERATORS. Operators of motor vehicles engaged primarily in the transportation of personnel are to be 18 years of age or older and have a valid state operator's permit or license for the equipment being operated. The operators must have passed a physical examination administered by a licensed physician within the past year showing that they are physically qualified to operate vehicles safely.

PART 4 - PERSONAL PROTECTIVE EQUIPMENT

4.1 HARDHAT AREAS. The entire job site, with the exception of offices, shall be considered a hardhat area. All persons entering the area are, without exception, required to wear hardhats.

The Contractor shall provide hardhats for visitors entering hardhat areas.

4.1.1 LABELS. Hardhats shall bear a manufacturer's label indicating design compliance with the appropriate ANSI (American National Standards Institute) standard.

4.2 POSTING. Signs, at least 3 by 4 feet, worded as follows, with red letters (minimum 6 inches high) and white background shall be erected at access points to designated hardhat area:

**CONSTRUCTION AREA
HARDHATS REQUIRED
BEYOND THIS POINT**

These signs are to be furnished and installed by the Contractor at entries to shops, construction yards, and job access points.

PART 5 - MACHINERY AND MECHANIZED EQUIPMENT

5.1 SAFE CONDITION. Before any machinery or mechanized equipment is initially used on the job, it must be inspected and tested by qualified personnel and determined to be in safe operating condition and appropriate for the intended use. Operators shall inspect their equipment prior to the beginning of each shift. Any deficiencies or defects shall be corrected prior to using the equipment. Safety equipment, such as seatbelts, installed on machinery, is to be used by equipment operators.

5.2 TAGGING AND LOCKING. The controls of power-driven equipment under repair are to be locked. An effective lockout and tagging procedure is to be established, prescribing specific responsibilities and safety procedures to be followed by the person or persons performing repair work.

5.3 OPERATIONS, RIDING ON EQUIPMENT, GETTING ON OR OFF EQUIPMENT, HOURS OF OPERATION

5.3.1 OPERATORS. Machinery and mechanized equipment shall be operated only by authorized qualified persons.

5.3.2 RIDING ON EQUIPMENT. Riding on equipment by unauthorized personnel is prohibited. Seating and safety belts shall be provided for the operator and all passengers.

5.3.3 GETTING ON OR OFF EQUIPMENT. Getting on or off equipment while the machinery is in motion is prohibited.

5.3.4 HOURS OF OPERATION. Except in emergencies, an equipment operator shall not operate any mobile or hoisting equipment for more than 12 hours without an 8-hour rest interval away from the job.

5.5 ROLLOVER PROTECTIVE STRUCTURES (ROPS)

5.5.1 ROLLOVER PROTECTIVE STRUCTURES. OSHA 1926, Subpart W, Overhead Protection, Sections 1000 and 1002, are applicable regardless of the year in which the equipment was manufactured and regardless of the stuck capacity of the equipment.

5.5.2 EQUIPMENT REQUIRING ROPS. The requirement for ROPS meeting 5.5.1 above applies to crawler and rubber-tired tractors such as dozers, push-and-pull tractors, winch tractors, tractors with backhoes, and mowers; off-highway, self-propelled, pneumatic-tired earthmovers, including scrapers, motor graders and loaders; and rollers, compactors, and water tankers (excluding trucks and cabs). These requirements shall also apply to agricultural and industrial tractors and similar equipment.

16. SUBLETTING:

The Engineer reserves the right to waive any subcontracting limits whenever it is deemed to be in the best interest of the City. The limits can be waived only upon written approval from the Engineer.

17. TERMINATION FOR CONVENIENCE:

The City may terminate the contract upon ten days written notice to the Contractor without cause. Any project assigned prior to the termination notice shall be completed and the Contractor will be paid in accordance with the terms of this contract.

18. CARE OF WORK:

The Contractor shall furnish and erect, at no additional cost to the City, whatever sidewalks, bridges and culverts, or other works as may be necessary for the protection of the public including but not limited to barricades, fences, etc. and for the safe and proper execution of other public utility lines so as not to interfere therewith or damage or cause damage thereto. The Contractor shall be responsible for all damages to persons or property that occur as a result of his fault, emission, or negligence in connection with the prosecution of the work and shall be responsible for the proper care and protection of all work performed hereunder until completion and final acceptance, whether or not the same has been covered in whole or in part by payments made by the City.

19. CLEANING UP:

Before acceptance of the project, or as directed by the Engineer, roadway, borrow sources, waste areas, and all ground occupied by the Contractor within the project limits in connection with the work shall be cleaned of all rubbish, excess materials, temporary structures, and equipment.

20. INDEMNIFICATION:

To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the City and its agents and employees, from and against all claims, damages, losses and expenses, including attorneys' fees, arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) including the loss of use resulting therefrom, and (2) is caused in whole or in part by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this paragraph.

In any and all claims against the City or any of its agents or employees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation under this paragraph shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

21. INSURANCE REQUIREMENTS:

Contractor's Liability and Other Insurance:

The Contractor shall purchase and maintain with a company acceptable to the City and authorized to do business with the State of North Carolina, such insurance as will protect him from claims under worker's compensation laws, disability benefit laws or other similar employee benefit laws; from claims for damages because of bodily injury, occupational sickness or disease, or death of his employees, and claims insured by usual personal injury liability coverage; from claims for damages because of bodily injury, sickness or disease, or death of any person other than his employees including claims insured by usual personal injury liability coverage; and from claims for injury to or destruction of tangible property, including loss of use resulting therefrom - any or all of which may arise out of or result from the contractors operations under the contract documents, whether such operations be by himself or any subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be legally liable. This insurance shall be written for not less than the limits of liability specified below.

Automobile - Bodily injury and property liability covering all owned, non-owned and hired automobiles for limits of not less than \$1,000,000 bodily injury each person, each accident and \$1,000,000 property damage, or \$1,000,000 combined single limit - Bodily injury and property damage combined.

Commercial General Liability - Bodily injury and property damage liability as shall protect the contractor and any subcontractor performing work under this contract from claims of bodily

injury or property damage which arise from operations of this contract whether such operations are performed by the contractor, any subcontractor or anyone directly or indirectly employed by either. The amounts of such insurance shall not be less than \$1,000,000 bodily injury each occurrence/aggregate and \$1,000,000 property damage each occurrence/aggregate or \$1,000,000 bodily injury and property damage combined single limits each occurrence/aggregate. This insurance shall include coverage for products/completed operations, personal injury liability and contractual liability assumed under the indemnity provision of this contract and broad form property damage, explosion, collapse and underground property damage (XC&U). The coverage shall be on an occurrence basis.

Worker's Compensation and Employers Liability - Shall meet the statutory requirement of the State of North Carolina, in the amount of \$100,000 each accident and disease - each employee and \$500,000 disease policy limit.

At the time of execution of the contract, the contractor shall provide the City with insurance certificates certifying that the foregoing insurance is in force; and such insurance certificates shall include provisions that the insurance shall not be canceled, allowed to expire or be materially changed without giving the City thirty (30) days advance written notice by registered mail.

The contractor is advised that if any part of the work under the contract is sublet, he shall require the subcontractor(s) to carry insurance as required above. However, this will in no way relieve the contractor from providing full insurance coverage on all phases of the projects, including any that are sublet.

When certain work is to be performed inside rights-of-way owned by railroads, North Carolina Department of Transportation or other agencies, both the contractor and any subcontractor may be required to furnish individual insurance certificates made in favor by the controlling agency, with limits established by that agency.

22. PRECONSTRUCTION CONFERENCE:

A preconstruction conference will be scheduled as soon as practical after the award of the contract. The Contractor shall attend the conference along with the prospective job superintendent; any anticipated major subcontractors and major material suppliers. A proposed progress schedule in a form satisfactory to the Engineer and a statement of the anticipated monthly progress payments showing the percent of progress each month shall be submitted. The Contractor shall also provide at least two (2) local telephone numbers which may be used to contact the Contractor or his authorized representative in the event of an emergency after normal business hours. Upon receipt of the required documentation, a Notice to Proceed will be issued by the Engineer.

23. SPECIFICATIONS PROVIDED:

The Contractor will be provided with two (2) sets of specifications. Additional sets may be obtained at the cost of printing.

24. PERIODIC PAYMENTS:

The City will make periodic payments based on the work progress estimates prepared by the Engineer and the payment request submitted by the Contractor on a monthly schedule established

by the Engineer. Payment will be made within twenty (20) calendar days after receipt of a correct payment request.

For contracts less than \$50,000, partial payments may be made twice each month if in the judgment of the Engineer the amount of work performed is sufficient to warrant such payment. No partial payment will be made when the total value of the work performed since the last partial payment, excluding mobilization, amounts to less than \$1,000.00.

Partial payment requests submitted at the end of a quarter, fiscal year or final payment, shall be accompanied by a North Carolina Local Sales or Use Tax Statement for the prime contractor and all subcontractors. Payment requests and tax statements shall be submitted on an original "Application and Certificate for Payment", AIA Document G702, and "Continuation Sheet", AIA Document G703. A form is shown at the end of this section. The tax statement shall show the N.C. Sales Tax and Greenville County tax paid. It shall also list any payments made directly to the North Carolina Department of Revenue. If no tax has been paid during the pay request period, "NONE" shall be entered on the tax form. Each statement shall be signed by a company officer and certified by a Notary Public.

The Contractor shall have a copy of his current payment request on the job site, which may be reviewed by subcontractors upon request.

The Contractor can use a form other than the AIA Document G702 as long as it has a statement that the Contractor certifies the application for payment or adds the following statement to each request for payment:

"I hereby certify that the labor and materials listed on this request for payment have been used in the construction of the Work, or that all materials included in this request for payment and not yet incorporated into the construction are now on the site; and that all lawful charges for labor, materials, etc., covered by previous Certificates for Payment have been paid and that all other lawful charges on which this request for payment is based have been paid for in full or will be paid for in full from the funds received in payment of this request within (10) calendar days from receipt of this partial payment from OWNER."

25. GUARANTEE:

The Contractor shall guarantee all materials and workmanship for a period of one (1) year from the date of acceptance by the City and shall replace any portions that fail because of faulty materials or workmanship at no additional cost to the City. A six (6) month and eleven (11) month inspections will be held during the warranty period. The Contractor shall immediately repair all defective items upon notification. Items repaired under the provisions shall have an extended warranty period of twelve (12) months of repair of the item.

26. PROJECT CLOSEOUT DOCUMENTS:

The Contractor shall provide the following documents with the final payment request:

1. Consent of Surety to Final Payment (Contracts equal to or exceeding \$100,000)
2. Contractor's Release and Waiver of Claim
3. N.C. and Pitt Co. Sales or Use Tax Statements and Certifications
4. Itemized Statement of Payments Made to Minority and Women's Business

Enterprises (Notarized)

No final payment will be authorized until these documents have been properly completed and submitted by the Contractor.

27. SALES TAX

Sales taxes may be listed on the proposal, but as a separate item. No charge will be allowed for Federal Excise and Transportation Tax from which the City is exempt.

The following procedure in handling the North Carolina Sales Tax is applicable to this project. Contractors shall comply fully with the requirements outlined hereinafter, in order that the Owner may recover the amount of the tax permitted under the law.

It shall be the Contractor's responsibility to furnish the Owner documentary evidence showing the materials used and sales tax paid by the Contractor and each of his Subcontractors. Such evidence shall be transmitted to the Owner.

The documentary evidence shall consist of a certified statement, by the Contractor and each of his subcontractors individually showing total purchases of materials for each separate vendor and total sales taxes paid each vendor. Certified statement must show the invoice number, or numbers, covered and inclusive dates of such invoices.

28. E-VERIFY COMPLIANCE

The Contractor shall comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes. Further, if the Contractor utilizes a Subcontractor, the Contractor shall require the Subcontractor to comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes. The Contractor represents that the Contractor and its Subcontractors are in compliance with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes.

29. CHANGE OF CONTRACT TIMES DUE TO WEATHER CONDITIONS

For each planned workday in which Contractor's controlling operation is delayed due to weather conditions as defined in Paragraph 3.h of the Standard Special Provisions, Owner shall extend the Contract Time one day, provided Contractor submits a Claim for adjustment in Contract Time in accordance with the provisions of Paragraph 10.05 of the General Conditions.

Additionally, in instances where Contractor considers site conditions of the project unworkable for two or more consecutive days due to weather conditions from a single-day weather event, including the day of the event, Contractor shall include such day(s) in his Claim for adjustment in Contract Time.

Example: A significant rain event producing 4" of precipitation over two hours begins and ends on Wednesday during the Contract Time. Contractor determines site conditions

due to this single-day event prevent work on the controlling operation on the subsequent Thursday and Friday. Contractor submits a Claim for adjustment in Contract Time of three days.

Contractor shall provide documentation with the Claim indicating the additional day(s) impacted by the single-day event was a planned workday, how the single-day event impacted the site and controlling operation, and any other documentation to support Contractor's request.

Owner shall not provide an adjustment in Contract Time due to weather delays for weekends, City holidays, or any other days known to be Non-workdays.

30. Should Contractor fail to submit his Claim within the timeframe provided in Paragraph 10.05 of the General Conditions, any extension of the Contract Time for the occurrence in question shall be solely determined by Engineer.

31. COLLECTION AND SUBMITTAL OF RAINFALL DATA

Contractor shall provide an accurate rain gauge at an uncovered location of the project site and shall record readings each day for the duration of the project. Contractor shall provide a copy of recorded rainfall data monthly with each application for payment.

Contractor shall be required to record rainfall data on weekends, City holidays, and times during which Contractor has demobilized from the project. Should instances arise in which weather conditions of one day, as defined in Paragraph 3.h of the Standard Special Provisions, cause allegedly unworkable site conditions for subsequent planned workdays, and Contractor fails to record rainfall data, Engineer will use rainfall data recorded by the weather stations located at the Greenville Utilities Commission's Water Treatment Plant for purposes of considering a Claim for adjustment in Contract Time in the absence of Contractor-submitted rainfall data.

32. WORK OUTSIDE NORMAL WORK HOURS

For purposes of the submitting bids, Contractor shall consider that all work requiring immediate inspection will be performed during normal work hours as defined in Paragraph 3 of this section. Upon written request by the Contractor, work outside of these hours may be approved at the discretion of the Director of Engineering. Should the Contractor make such request and the Director of Engineering approve the request, the Contractor shall reimburse the City at a rate of \$135 per hour for the Inspector's time outside normal work hours, and such reimbursement shall be deducted from the next partial payment request.

SECTION 01010 - PROJECT REQUIREMENTS

RELATED DOCUMENTS:

The general provisions of the Contract, including the General and Special Conditions and Division-1 Specification sections apply to work of this section.

GENERAL DESCRIPTION OF WORK:

Work shall be as included in the Advertisement for Bidders elsewhere in this contract.

OTHER CONSTRUCTION CONTRACTS:

Work at the site performed by others under separate contracts includes the following:

Relocation of Utilities (Electric, Telephone, Etc.)
Adjust Signal Wiring Box, Cable Pedestal, Electric Vault Box, Telephone Manhole
Associated Miscellaneous Work

COORDINATION:

The CONTRACTOR shall plan, schedule, and coordinate his operations in a manner, which will facilitate the simultaneous progress of the Work included under Other Construction Contracts outside the scope of these Contract Documents.

RESPONSIBILITY FOR MATERIALS AND EQUIPMENT:

Items Furnished by CONTRACTOR: The CONTRACTOR shall be fully responsible for all materials and equipment, which he has furnished, and shall furnish necessary replacements at any time prior to expiration of the Guaranty Period.

OFF-SITE STORAGE:

Off-site storage arrangements shall be acceptable to the OWNER for all materials and equipment not incorporated into the work but included in Applications for Payment. Such off-site storage arrangements shall be presented in writing, and shall afford adequate and satisfactory security and protection. Off-site storage facilities shall be accessible to the ENGINEER.

EQUIVALENT MATERIALS AND EQUIPMENT:

Whenever a material or article is specified or described by using the name of a proprietary product or the name of a particular manufacturer or vendor, the specified item mentioned shall be understood as establishing the type, function and quality desired. Other manufacturers' products may be accepted provided sufficient information is submitted to allow the ENGINEER to determine that the products proposed are equivalent to those named.

Requests for review of equivalency will not be accepted from anyone except the CONTRACTOR, and such requests will not be considered until after the Contract has been awarded.

Proposed equivalent and or equal items shall be submitted for review by the procedure set forth in Item No. 10 of the Instructions to Bidders (IB-4 and IB-5).

It is the intent of these specifications to insure that materials and equipment of the highest reliability are supplied. The design of the overall product and selection of materials and equipment included in these specifications have been based upon dimensions, structures, connection wiring, etc. required for the first manufacturer listed in every reference to a quality standard. If material or equipment of another manufacturer (including alternatives specifically referenced) is offered, the cost of any changes in structures, building, piping, wiring, etc., as well as any detailed drawings necessary to show such required changes, shall be borne by the CONTRACTOR with no additional cost to the Owner.

SALVAGE OF MATERIALS AND EQUIPMENT:

Existing materials and equipment removed, and not reused, as a part of the Work shall become the CONTRACTOR's property except the following items which shall remain the Owner's property:

- Fire Hydrants
- Castings
- Utility Boxes
- Signs

Salvaged items not to be reused in the Work, but to remain Owner's property, shall be delivered by CONTRACTOR in good condition to Greenville Utilities Commission Operations Center or to the City of Greenville Public Works Department (depending upon the salvaged item).

The CONTRACTOR shall carefully remove in a manner to prevent damage all materials and equipment specified or indicated to be salvaged and reused or to remain property of the OWNER. He shall store and protect salvaged items specified or indicated to be reused in the Work.

Any items damaged in removal, storage or handling through carelessness or improper procedures shall be replaced by the CONTRACTOR in kind or with new items.

The CONTRACTOR may at his option furnish and install new items in lieu of those specified or indicated to be salvaged and reused, in which case such removed items will become the CONTRACTOR's property.

Existing materials and equipment removed by the CONTRACTOR shall not be reused in the Work except where so specified or indicated.

LAND FOR CONSTRUCTION PURPOSES:

The CONTRACTOR shall request permission in writing to use any land of the OWNER's, on or near the site of the Work, for construction purposes and for the storage of materials and equipment. The location and extent of the areas so used shall be as indicated on the drawings or as otherwise may be acceptable to OWNER.

The CONTRACTOR shall immediately move stored material or equipment if any occasion arises, as determined by the OWNER, requiring access to the storage area. Materials or equipment shall not be placed on the property of the OWNER until the OWNER has agreed to the location to be used for storage.

EASEMENTS AND RIGHTS-OF-WAY:

The OWNER will provide the easements and right-of-way for construction. The CONTRACTOR shall confine his construction operations within the limits indicated on the drawings, and shall use due care in placing construction tools, equipment, excavated materials and pipeline materials and supplies, so as to cause the least possible damage to property and interference with traffic.

On Private Property: Easements across private property are indicated on the drawings. The CONTRACTOR shall set stakes to mark the boundaries of construction easement across private property. The stakes shall be protected and maintained until completion of construction and cleanup.

Work within Highway Right-of-way: The OWNER shall obtain Permits. All Work performed and all operations of the CONTRACTOR, his employees or subcontractors, within the limits of highway right-of-way, shall be in conformity with the requirements and be under the control (through the OWNER) of the highway authority owning, or having jurisdiction over and control of, the right-of-way in each case.

OPERATION OF EXISTING FACILITIES:

The existing utilities must be kept in continuous operation throughout the construction period. No interruption will be permitted which adversely affects the degree of service provided. Provided permission is obtained from the OWNER in advance and portions of the existing facilities may be taken out of service for short periods corresponding with periods of minimum service demands.

NOTICES TO OWNERS AND AUTHORITIES:

The CONTRACTOR shall, as provided in General Conditions, notify owners of adjacent property and utilities when prosecution of the Work may affect them.

When it is necessary to temporarily deny access by owners or tenants to their property, the CONTRACTOR shall give notices sufficiently in advance to enable the affected persons to provide for their needs. Notices shall conform to any applicable local ordinance and, whether delivered orally or in writing, shall include appropriate information concerning the interruption and instructions on how to limit their inconvenience.

Utilities and other concerned agencies shall be contacted at least 48 hours prior to cutting or closing streets or other traffic areas or excavating near underground utilities or pole lines.

EXISTING CITY STREETS:

The Contractor shall provide for the removal and relocation of existing street signs located within the rights of way to allow for construction of sidewalk or utility adjustment. A separate pay item for this work will not be included. Any cost associated with this work should be included in the cost of the sidewalk construction.

UNFAVORABLE CONSTRUCTION CONDITIONS:

During unfavorable weather, wet ground or other unsuitable construction conditions, the CONTRACTOR shall confine his operations to work that will not be affected adversely by such conditions. No portion of the Work shall be constructed under conditions that would affect adversely the quality or efficiency

thereof, unless special means or precautions are taken by the CONTRACTOR to perform the Work in a proper and satisfactory manner.

CUTTING AND PATCHING:

As provided in General Conditions, the CONTRACTOR shall perform all cutting and patching required for the Work and as may be necessary in connection with uncovering Work for inspection or for the correction of defective Work.

The CONTRACTOR shall perform all cutting and patching required for the installation of improperly timed Work, to remove samples of installed materials for testing, provide for alteration of existing facilities or the installation of new Work in existing construction. Except when the cutting or removal of existing construction is specified or indicated, the CONTRACTOR shall not undertake any cutting or demolition that may affect the structural stability of the Work or existing facilities without the ENGINEER's concurrence.

The CONTRACTOR shall provide all shoring, bracing, supports and protective devices necessary to safeguard all Work and existing facilities during cutting and patching operations. Materials shall be cut and removed to the extent indicated on the drawings or as required to complete the Work. Materials shall be removed in a careful manner with no damage to adjacent facilities or materials. The CONTRACTOR shall remove materials which are not salvageable from the site.

All Work and existing facilities affected by cutting operations shall be restored with new materials, or with salvaged materials acceptable to the ENGINEER, to obtain a finished installation with the strength, appearance and functional capacity required. If necessary, entire surfaces shall be patched and refinished.

CLEAN UP:

The CONTRACTOR shall keep the premises free at all times from accumulations of waste materials and rubbish. The CONTRACTOR shall provide adequate trash receptacles about the site and shall promptly empty the containers when filled.

Construction materials stored on the site shall be kept off the ground, neatly stacked, protected from rain and sun when required by the ENGINEER, and the area around the stored materials shall be kept free of trash, weeds and brush.

The CONTRACTOR shall neatly stack construction materials, such as concrete forms and scaffolding when not in use. The CONTRACTOR shall promptly remove splattered concrete, asphalt, oil, paint, corrosive liquids, cleaning solutions, etc. from surfaces to prevent marring or other damage. Volatile waste shall be properly stored in covered metal containers and removed daily.

Wastes shall not be buried or burned on the site or disposed of into storm drains, sanitary sewers, streams or waterways. All waste shall be removed from the site and disposed of in a manner complying with local ordinances and anti-pollution laws.

Adequate cleanup shall be a condition for recommendation of progress payment applications.

APPLICABLE CODES:

References in the Contract Documents to local codes mean the North Carolina State Building Code, City of Greenville Manual of Standard Designs and Details, Greenville Utilities Commission Manual for Design and Construction of Water and Wastewater System Extensions, North Carolina Department of Transportation, and any applicable County or municipal codes.

Other standard codes, which apply to the Work, are designated in the specifications.

REFERENCE STANDARDS:

Reference to the standards of any technical society, organization or association, or to codes of local or state authorities, shall mean the latest standard, code, specification or tentative standard adopted and published at the date of receipt of bids, unless specifically stated otherwise.

ABBREVIATIONS AND SYMBOLS:

Abbreviations used in the Contract Documents are defined as follows:

| | |
|----------|--|
| AASHTO | American Association of State Highway and Transportation Officials |
| ACI | American Concrete Institute |
| AISC | American Institute of Steel Construction |
| AISI | American Iron and Steel Institute |
| ANSI | American National Standards Institute |
| ASCE | American Society of Civil Engineers |
| ASME | American Society of Mechanical Engineer |
| ASTM | American Society for Testing and Materials |
| AWG | American Wire Gauge |
| APWA | American Public Works Association |
| AWWA | American Water Works Association |
| CRSI | Concrete Reinforcing Steel Institute |
| CS | Commercial Standard |
| DEM | Division of Environmental Management of the NC Department of Environment, Health and Natural Resources |
| DEH | Division of Environmental Health of the NC Department of Environment and Natural Resources |
| Fed Spec | Federal Specifications |
| NCDOT | North Carolina Department of Transportation |
| NEC | National Electrical Code |
| NEMA | National Electrical Manufacturers Association |
| NFPA | National Fire Protection Association |
| NSPC | National Standard Plumbing Code |
| OSHA | Occupational Safety and Health Administration |

| | |
|-------|--|
| PCI | Prestressed Concrete Institute |
| PS | Product Standard |
| SAE | Society of Automotive Engineers |
| SCPRF | Structural Clay Products Research Foundation |
| SSPC | Steel Structures Painting Council |
| UL | Underwriters' Laboratories |
| US | U. S. Bureau of Standards |

PRECONSTRUCTION CONFERENCE:

Prior to the commencement of work at the site, a preconstruction conference will be held at a mutually agreed time and place. The conference shall be attended by:

- The CONTRACTOR and his superintendent
- Principal Subcontractors
- City of Greenville Representatives
- Representatives of Greenville Utilities Commission
- Governmental representatives as appropriate
- Others as requested by CONTRACTOR, OWNER, or ENGINEER

Unless previously submitted to the ENGINEER, the CONTRACTOR shall bring to the conference a tentative schedule for each of the following:

- Progress
- Procurement
- Values for Progress Payment purposes
- Shop Drawings and other submittals

The purpose of the conference is to designate responsible personnel and establish a working relationship. Matters requiring coordination will be discussed and procedures for handling such matters established. The agenda will include:

CONTRACTOR's tentative schedules

- Transmittal, review, and distribution of CONTRACTOR's submittals
- Processing applications for payment
- Maintaining record documents

Critical Work sequencing

Field decisions and Change Orders

Use of premises, office and storage areas, security, housekeeping, and Owner's needs

Major equipment deliveries and priorities

CONTRACTOR'S assignments for safety and first aid

The ENGINEER will preside at the conference and will arrange for keeping the minutes and distributing the minutes to all persons in attendance.

PROGRESS MEETINGS:

Regular progress meetings will be held at an agreed time and place at least monthly and at other times as requested by ENGINEER or required by progress of the Work. The Owner, Contractor, Engineer and all subcontractors active on the site shall be represented at each meeting. The purpose of the meetings will be to review the progress of the Work, maintain coordination of efforts, discuss changes in scheduling and resolve other problems, which may develop.

SITE ADMINISTRATION:

The Contractor shall be responsible for all areas of the site used by him, by other contractors, and all subcontractors in the performance of the Work. He will exert full control over the actions of all employees and other persons with respect to the use and preservation of property and existing facilities, except such controls as may be specifically reserved to the OWNER or others.

The CONTRACTOR has the right to exclude from the site all persons who have no purpose related to the Work or its inspection and may require all persons on the site (except Owner's employees and ENGINEER) to observe the same regulations as he requires of his employees.

END OF SECTION 01010

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SECTION 01090 - REFERENCE STANDARDS

PART 1 -- GENERAL

1.01 THE REQUIREMENT

A. Wherever reference is made to any published standards, codes, or standard specifications, it shall mean the latest standard code, specification, or tentative specification of the technical society, organization, or body referred to, which is in effect at the date of receipt of Bids.

B. All materials, products, and procedures used or incorporated in the work shall be in strict conformance with applicable codes, regulations, specifications, and standards.

C. A partial listing of codes, regulations, specifications, and standards includes the following:

Air Conditioning and Refrigeration Institute (ARI)

Air Diffusion Council (ADC)

Air Moving and Conditioning Association (AMCA)

The Aluminum Association (AA)

American Architectural Manufacturers Association (AAMA)

American Concrete Institute (ACI)

American Gear Manufacturers Association (AGMA)

American Hot Dip Galvanizers Association (AHDGA)

American Institute of Steel Construction, Inc. (AISC)

American Iron and Steel Institute (AISI)

American National Standards Institute (ANSI)

American Society of Civil Engineers (ASCE)

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE)

American Society of Mechanical Engineers (ASME)

American Society for Testing and Materials (ASTM)

American Standards Association (ASA)

American Water Works Association (AWWA)

American Welding Society (AWS)

American Wood-Preservers Association (AWPA)

Anti-Friction Bearing Manufacturers Association (AFBMA)

Consumer Product Safety Commission (CPSC)

Factory Mutual (FM)

Federal Specifications

Instrument Society of America (ISA)

Institute of Electrical and Electronics Engineers (IEEE)

National and Local Fire Codes

Lightning Protection Institute (LPI)

National Electrical Code (NEC)

National Electrical Manufacturer's Association (NEMA)

National Electrical Safety Code (NESC)

National Electrical Testing Association (NETA)

National Fire Protection Association (NFPA)

North Carolina State Building Code

Regulations and Standards of the Occupational Safety and Health Act (OSHA)

Southern Building Code Congress International, Inc. (SBCCI)

Sheet Metal & Air Conditioning Contractors National Association (SMACCNA)

Standard Mechanical Code

Standard Plumbing Code

Uniform Building Code (UBC)

Underwriters Laboratories Inc. (UL)

D. Contractor shall, when required, furnish evidence satisfactory to the Engineer that materials and methods are in accordance with such standards where so specified.

E. In the event any questions arise as to the application of these standards or codes, copies shall be supplied on-site by the Contractor.

PART 2 -- PRODUCTS

(NOT USED)

PART 3 -- EXECUTION

(NOT USED)

END OF SECTION 01090

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SECTION 01150 – UNIT PRICES

RELATED DOCUMENTS:

The general provisions of the Contract, including the General, Supplementary Conditions and Division-1 Specification sections apply to work of this section.

SCOPE:

This section covers methods of payment for items of Work under this Contract.

GENERAL:

The Total Bid Price for each part of the Project shall cover all Work required by the Contract Documents. All costs in connection with the proper and successful completion of the Work, including furnishing all materials, equipment, supplies and appurtenances; providing all construction plant, equipment and tools; and performing all necessary labor and supervision to fully complete the Work shall be included in the unit and lump sum prices bid. All Work not specifically set forth as a pay item in the Bid Form shall be considered a subsidiary obligation of CONTRACTOR and all costs in connection therewith shall be included in the prices bid.

ESTIMATED QUANTITIES:

All estimated quantities stipulated in the Bid Form or other Contract Documents are approximate and are to be used only (a) as a basis for estimating the probable cost of the Work and (b) for the purpose of comparing the bids submitted for the Work. The actual amounts of work performed and materials furnished under unit price items may differ from the estimated quantities. The basis of payment for work and materials will be the actual amount of work done and materials furnished. CONTRACTOR agrees that he will make no claim for damages, anticipated profits or otherwise on account of any difference between the amounts of work actually performed and materials actually furnished and the estimated amounts thereof. Payment will be made or lump sum prices adjusted according to unit prices bid and as described below.

Mobilization (5% maximum): Please refer to 2018 NCDOT Standard Specifications, section 800-2, except as modified by the maximum percentage included herein.

Asphalt Concrete Surface Course, Type S9.5B: Per 2018 NCDOT Standard Specifications, section 610-16.

Asphalt Plant Mix, Pavement Repair, 4" Deep: Includes all materials, labor, equipment, and incidentals necessary to excavate or otherwise remove unsuitable materials below milled depth, disposal of removed materials, and furnishing, placing, and compacting asphalt plant mix, Type B25.0C. Unsuitable materials may include, but not be limited to, tree roots, soft, wet or otherwise unacceptable soil subgrade, and ABC

stone. Payment will be made at the contract unit price for the actual tons of pavement satisfactorily repaired.

Street Micro Surfacing Type II: The micro surfacing shall be paid for by the square yards of emulsified asphalt used on the project and accepted by Owner. Payment shall be full compensation for all preparation, mixing, and application of materials, and for all labor, equipment, tools, testing, and incidentals necessary to complete the work as specified herein.

Rut Filling: This item shall be paid for in the square feet of area that rut filling is completed. Payment shall be full compensation for all preparation, mixing, and application of materials, and for all labor, equipment, tools, testing, and incidentals necessary to complete the work as specified herein.

Crack Sealing: This item shall be paid for as square yards of total roadway that has had crack sealing treatment applied. The square yard price will cover all labor, materials, equipment, and any other incidentals.

Cape Seal: This item shall be paid for as square yards of total roadway that has had cape seal treatment applied. The square yard price will cover all labor, materials, equipment, and any other incidentals.

Rejuvenator: This item shall be paid for as square yards of total roadway that has had rejuvenator treatment applied. The square yard price will cover all labor, materials, equipment, and any other incidentals.

Roadway Cleaning: This item shall be paid for as square yards of the total roadway cleaning that will be done for this project. Roadways will be paid for the square yards of appropriate cleaning methods mentioned in the specifications. The square yard price will cover all labor, materials, equipment, and any other incidentals.

Adjust/Replace Existing Water/Gas Valve Boxes: Adjust existing valve boxes as necessary to match the finished grade or to allow for project construction. Payment will be per valve box adjusted as listed in the schedule of quantities. If a water/gas valve needs to be replaced, the contractor may pick up new castings from Greenville Utilities Commission or Eastern Pines Water Corporation.

Adjust/Replace Existing Storm Drain/Sanitary Sewer Castings and Cover: Adjust existing storm drain or sanitary sewer casting as necessary to match the finished grade or to allow for project construction. Payment will be per drop inlet / junction box adjusted as listed in the schedule of quantities. If a storm drain or sanitary sewer casting needs to be replaced, the contractor may pick up new castings from the Engineering Department (storm) or Greenville Utilities Commission (sanitary).

Removal of Existing Concrete Curb and Gutter: Includes removal and disposal of concrete curb and gutter as well as unsatisfactory subgrade materials. This item includes all necessary materials, labor, equipment and incidentals needed to satisfactorily complete the work. Payment will be at the contract unit price per linear foot removed as listed in the schedule of quantities.

Removal of Existing Valley Gutter: Includes all materials, labor, equipment and incidentals necessary to remove and dispose of existing valley gutters. Payment will be made at the contract unit price per linear foot removed as listed in the schedule of quantities.

24" & 30" Concrete Curb and Gutter: Per 2018 NCDOT Standard Specifications, section 846.

Valley Gutter: This item shall include all materials, equipment, labor and incidentals necessary to install Valley Gutter, complete and accepted. Payment will be at the contract unit price per cubic yard of Valley Gutter.

4" Thick Concrete Sidewalk: This item shall include all materials, equipment, labor and incidentals necessary to install 4" thick concrete sidewalk, complete and accepted. The work of installing 48"x48" flat concrete pads at the top of existing wheelchair ramps will be paid as part of this item. Payment will be at the contract unit price per square yard of concrete sidewalk incorporated into the project as shown in the schedule of quantities.

Concrete Driveway Apron: The quantity to be paid for under this item will be the actual number of square yards of concrete driveway apron installed as verified by the City. The unit price bid for this item will be full compensation required to install new concrete driveway apron as specified herein including but not limited to: subgrade preparation; installation; cleaning; protective measures to include fences, barricades, or other measure necessary to prevent vehicles and pedestrians from entering freshly poured pavement areas.

Repair Existing Concrete Pavement (8" Thick): Includes all materials, labor, equipment, and incidentals necessary to sawcut, excavate, or otherwise remove unsuitable materials, disposal of removed materials, and furnishing, placing, and pouring concrete. Unsuitable materials may include, but not be limited to, tree roots, soft, wet or otherwise unacceptable soil subgrade, and ABC stone. Payment will be made at the contract unit price for the actual square yards of concrete satisfactorily repaired.

Select Tree Removal: The quantity to be paid under this item will include any work for removing the selected tree, debris removal, grinding the stump, seeding or backfilling necessary to disturbed area.

Removal of Existing Concrete Wheelchair Ramp: Includes all materials, labor, equipment and incidentals necessary to remove and dispose of existing concrete wheelchair ramps and associated wipe downs. Payment will be made at the contract unit price per each ramp removed as listed in the schedule of quantities.

Types 1, 1A, 2, 2A, 3, 4, 4A, and 5 Concrete Wheelchair Ramps: This item includes the materials, equipment and labor necessary to install concrete Wheel Chair Ramps per NCDOT Standard Details. The cost also includes installation of any curb work / wipe downs associated with the installation of the Wheelchair Ramps, but does not include the removal of any curb work / wipe downs. The Contractor shall use Armor-Tile Cast in Place Detectable Warning Tiles (24" X required width") black in color or approved equal, which shall be considered incidental to the work of wheel chair ramp installation.

Any disturbed area around wheelchair ramps will include incidental seeding and mulching. This will not be paid as a separate item but incidental to the ramps bid line item.

Seeding and Mulching: This item shall include the labor, equipment, and materials necessary to complete seeding and mulching for areas around the backfill needed. The only backfill needed will be addressed on streets with overlay. Any areas around concrete wheelchair ramps that are disturbed will use seeding and mulching as an incidental to the line item of wheelchair ramps.

Work Zone Traffic Control: Per 2018 NCDOT Standard Specifications, section 1089.

Milling Asphalt Pavement, 1"-3" Depth: Per 2018 NCDOT Standard Specifications, section 607.

Proof Rolling: Per 2018 NCDOT Standard Specifications, section 260. The City will pay to the nearest quarter hour (0.25) instead of the nearest 0.1 hour as shown in section 260-4.

Removal of Existing Speed Humps: This item shall include the labor, equipment, materials, and other incidentals necessary to complete removing of existing speed humps. Payment will be at the contract unit price per each hump removed.

Removal of Speed Cushions: This item shall include the labor, equipment, materials, and other incidentals necessary to remove existing speed cushions and approved by Owner. Payment will be at the contract unit price per each speed cushion removed.

Installing of Speed Cushions: This item shall include the labor, equipment, materials, and other incidentals necessary to install new speed cushions and approved by Owner. Payment will be at the contract unit price per each speed cushion installed.

Thermoplastic Pavements Markings: Includes all equipment, labor, materials, and incidentals necessary to install thermoplastic pavement markings covered or otherwise removed by the milling and paving operations. Payment will be made at the contact unit prices per unit as shown in the schedule of prices.

Bid Items for "SCHOOL", "ONLY", and "RXR" will be paid as a complete unit, including any 24" bars required as part of these units. Single stop bars to be installed at locations separate of these items will be paid under the item of 24" Thermoplastic White Line.

Parking "T"'s will be paid per each complete "T".

Subsidiary Obligations: All work not specifically set forth as a pay item in the Bid Proposal shall be considered a subsidiary obligation of the Contractor and all costs in connection therewith shall be included in the prices bid. Subsidiary obligations include, but are not limited to temporary drainage provisions, dewatering, removal and off-site disposal of excess or unsuitable materials and debris, removal and replacement of existing features such as culverts, mailboxes, and lawns, and any construction staking needed to complete project.

SECTION 01300 - SUBMITTALS

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including the General and Special Conditions and Division-1 Specification sections apply to work of this section.

CONSTRUCTION SCHEDULE:

Before Work is started, the CONTRACTOR for Contract of the project shall submit to the ENGINEER for review three copies of the schedule of the proposed construction operations. The OWNER shall cooperate with the CONTRACTOR in arrangements for continuity of service and operation of valves and other control facilities. The construction schedule shall indicate the sequence of the Work, the time of starting and completion of each part, the installation date for each major item of equipment, and the time for making connections to existing piping, structures, or facilities.

At least every 30 days the schedule shall be revised as necessary to reflect changes in the progress of the Work. The schedule revisions will be discussed at the monthly progress meeting.

The OWNER may require the CONTRACTOR to add to his plant, equipment, or construction forces, as well as increase the working hours, if operations fall behind schedule at any time during the construction period.

PROGRESS REPORTS:

A progress report shall be furnished to the ENGINEER with each copy of the application for progress payment. If the Work falls behind schedule, the CONTRACTOR shall submit additional progress reports at such intervals as ENGINEER may request.

Each progress report shall include sufficient narrative to describe current and anticipated delaying factors, their effect on the construction schedule, and proposed corrective actions. Any Work reported complete, but which is not readily apparent to the ENGINEER, must be substantiated with satisfactory evidence.

Each progress report shall also include three prints of the accepted graphic schedule marked to indicate actual progress.

SURVEY DATA:

All field books, notes, and other data developed by the CONTRACTOR in performing surveys required as part of the Work shall be available to the ENGINEER for examination throughout the construction period. All such data shall be submitted to the ENGINEER with the other documentation required for final acceptance of the Work.

SHOP DRAWINGS, MATERIAL CERTIFICATES AND PRODUCT DATA:

Engineering data covering all equipment and fabricated materials that will become a permanent part of the Work under this contract shall be submitted to the ENGINEER for review prior to installation.

Material Certificates are notarized statements by an official of the supplier certifying that the materials meet the specifications and are used in lieu of or in addition to shop drawings and product data.

All submittals, regardless of origin, shall be stamped with the approval of CONTRACTOR and identified with the name and number of the Contract, the CONTRACTOR's name, and references to applicable specification paragraphs and Contract Drawings. Each submittal shall indicate the intended use of the item in the Work. When catalog pages are submitted, applicable items shall be clearly identified. The current revision, issue number, and date shall be indicated on all drawings and other descriptive data.

The CONTRACTOR's stamp of approval is a representation to the OWNER and the ENGINEER that the CONTRACTOR accepts full responsibility for determining and verifying all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar data, and that he has reviewed or coordinated each submittal with the requirements of the Work and the Contract Documents.

All deviations from the Contract Documents shall be identified on each submittal and shall be tabulated in the CONTRACTOR's letter of transmittal. Such submittals shall, as pertinent to the deviation, indicate essential details of all changes proposed by CONTRACTOR (including modifications to other facilities that may be a result of the deviation) and all required piping and wiring diagrams.

The CONTRACTOR shall accept full responsibility for the completeness of each submission, and, in the case of a resubmission, shall verify that all exceptions previously noted by ENGINEER have been taken into account. In the event that more than one resubmission is required because of failure of the CONTRACTOR to account for exceptions previously noted, the CONTRACTOR shall reimburse the OWNER for the charges of the ENGINEER for review of the additional resubmissions.

Any need for more than one resubmission, or any other delay in obtaining the ENGINEER's review of submittals, will not entitle the CONTRACTOR to extension of the Contract Time unless delay of the Work is directly caused by a change in the Work authorized by a Change Order or by failure of ENGINEER to return any submittal within 21 days after its receipt in the ENGINEER's office.

The ENGINEER's review of drawings and data submitted by the CONTRACTOR will cover only general conformity to the drawings and specifications, external connections, and dimensions, which affect the layout. The ENGINEER's review does not indicate a thorough review of all dimensions, quantities, and details of the material, equipment, device, or item shown. The ENGINEER's review of submittals shall

not relieve the CONTRACTOR from responsibility for errors, omissions, or deviations, or responsibility for compliance with the Contract Documents.

Five copies (or one reproducible copy of large drawings) of each drawing and necessary data shall be submitted to the ENGINEER. The ENGINEER will not accept submittals from anyone but the CONTRACTOR. Submittals shall be consecutively numbered in direct sequence of submittal and without division by subcontracts or trades. Resubmittals shall bear the number of the first submittal followed by a letter (A, B, etc.) to indicate the sequence of the resubmittal.

When the drawings and data are returned marked DISAPPROVED or RESUBMIT, the corrections shall be made as noted thereon and as instructed by the ENGINEER and five corrected copies (or one corrected reproducible copy) resubmitted.

When corrected copies are resubmitted, the CONTRACTOR shall in writing direct specific attention to all revisions and shall list separately any revisions made other than those called for by the ENGINEER on previous submissions.

When the drawings and data are returned marked APPROVED AS NOTED, APPROVED, or RECORD COPY, no additional copies need be furnished.

END OF SECTION 01300

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SECTION 01500 - TEMPORARY FACILITIES

RELATED DOCUMENTS:

The general provisions of the Contract, including the General and Special Conditions and Division-1 Specification sections apply to work of this section.

WATER:

All water required for and in connection with the Work to be performed and for any specified tests of piping, equipment, devices, etc. or for any other use as may be required for proper completion of the Work shall be provided by and at the expense of the CONTRACTOR. No separate payment for water used or required will be made and all costs in connection therewith shall be included in the Bid.

POWER:

The CONTRACTOR shall provide all power for operation of the CONTRACTOR's equipment, or for any other use by CONTRACTOR.

SANITARY FACILITIES:

The CONTRACTOR under Contract shall furnish temporary sanitary facilities at the site, as provided herein, for the needs of all construction workers and others performing work or furnishing services on the Project.

Sanitary facilities shall be of reasonable capacity, properly maintained throughout the construction period, and obscured from public view to the greatest practical extent. If toilets of the chemically treated type are used, at least one toilet will be furnished for each 20 men. The CONTRACTOR shall enforce the use of such sanitary facilities by all personnel at the site.

MAINTENANCE OF TRAFFIC:

The CONTRACTOR shall conduct his work to interfere as little as possible with public travel, whether vehicular or pedestrian. Whenever it is necessary to cross, obstruct, or close roads, driveways and walks, whether public or private, the CONTRACTOR shall provide and maintain suitable and safe bridges, detours, or other temporary expedients for the accommodation of public and private travel, and shall give reasonable notice to owners of private drives before interfering with them. Such maintenance of traffic will not be required when CONTRACTOR has obtained permission from the owner and tenant of private property, or from the authority having jurisdiction over public property involved, to obstruct traffic at the designated point.

In making open cut street crossings, the CONTRACTOR shall not block more than one-half of the street at a time. Whenever possible, the CONTRACTOR shall widen the shoulder on the opposite side to facilitate traffic flow. Temporary surfacing shall be provided as necessary on shoulders.

BARRICADES:

All sidewalks, driveways, streets, and other public thoroughfares that are closed to traffic or pedestrians shall be protected by effective barricades on which shall be placed acceptable warning signs. Barricades shall be located at the nearest intersecting public street on each side of the blocked section.

All open trenches and other excavations shall have suitable barricades, signs, and lights to provide adequate protection to the public. Obstructions such as material piles and equipment shall be provided with similar warning signs and lights.

All barricades and obstructions shall be illuminated with warning lights from sunset to sunrise. Material storage and conduct of the Work on or alongside public streets and highways shall cause the minimum obstruction and inconvenience to the traveling public.

All barricades, signs, lights and other protective devices shall be installed and maintained in conformity with applicable statutory requirements and, where within railroad and highway right-of-way, as required by the authority having jurisdiction thereof.

FENCES:

All existing fences affected by the Work shall be maintained by the CONTRACTOR until completion of the Work. Fences which interfere with construction operations shall not be relocated or dismantled until written permission is obtained from the owner of the fence, and the period the fence may be left relocated or dismantled has been agreed upon. Where fences must be maintained across the construction easement, adequate gates shall be installed. Gates shall be kept closed and locked at all times when not in use.

On completion of the Work across any tract of land, the CONTRACTOR shall restore all fences to their original or to a better condition and to their original location.

PROTECTION OF PUBLIC AND PRIVATE PROPERTY:

The CONTRACTOR shall protect, shore, brace, support, and maintain all underground pipes, conduits, drains, and other underground construction uncovered or otherwise affected by their construction operations. All pavement, surfacing, driveways, curbs, walks, buildings, utility poles, guy wires, fences, and other surface structures affected by construction operations, together with all sod and shrubs in yards and parking areas, shall be restored to their original condition, whether within or outside the easement. All replacements shall be made with new materials.

No trees shall be removed outside of the permanent easement, except where authorized by the ENGINEER. Whenever practicable the CONTRACTOR shall tunnel beneath trees in yards and parking areas when on or near the line of trench. Hand excavation shall be employed as necessary to prevent

injury to trees. Trees left standing shall be adequately protected against damage by construction operations.

The CONTRACTOR shall be responsible for all damage to streets, roads, highways, shoulders, ditches, embankments, culverts, bridges, and other public or private property, regardless of location or character, which may be caused by transporting equipment, materials, or men to or from the Work or any part or site thereof, whether by him or his Subcontractors. The CONTRACTOR shall make satisfactory and acceptable arrangements with the owner of, or the agency or authority having jurisdiction over, the damaged property concerning its repair or replacement or payment of costs incurred in connection with the damage.

All fire hydrants and water control valves shall be kept free from obstruction and available for use at all times.

DAMAGE TO EXISTING PROPERTY:

The CONTRACTOR will be held responsible for any damage to existing structures, Work, materials or equipment because of his operations and shall repair or replace any damaged structures, Work, materials, or equipment to the satisfaction of, and at no additional cost to, OWNER.

The CONTRACTOR shall protect all existing structures and property from damage and shall provide bracing, shoring, or other work necessary for such protection.

The CONTRACTOR shall be responsible for all damage to streets, roads, curbs, sidewalks, highways, shoulders, ditches, embankments, culverts, bridges, or other public or private property, which may be caused by transporting equipment, materials, or personnel to or from the Work. The CONTRACTOR shall make satisfactory and acceptable arrangements with the agency having jurisdiction over the damaged property concerning its repair or replacement.

TREE AND PLANT PROTECTION:

All trees and other vegetation that must be removed to perform the Work shall be removed and disposed of by the CONTRACTOR; however, no trees or cultured plants shall be unnecessarily removed unless their removal is indicated on the drawings. All trees and plants not removed shall be protected against injury from construction operations.

Trees considered by the ENGINEER to have any significant effect on construction operations are indicated on the drawings and those, which are to be preserved, are so indicated.

The CONTRACTOR shall take extra measures to protect trees designated to be preserved, such as erecting barricades, trimming to prevent damage from construction equipment, and installing pipe and other Work by means of hand excavation or tunneling methods. Such trees shall not be endangered by stockpiling excavated material or *storing equipment within the drip-line of the tree or* against the trunk.

When the injury or removal of trees designated to be preserved cannot be avoided, or when removal and replacement is indicated on the drawings, each tree injured beyond repair or removed shall be replaced with a similar tree of the nearest size possible.

All trimming, repair, and replacement of trees and plants shall be performed by qualified nurserymen or horticulturists. *Any trimming or removal of any tree within the right-of-way requires a permit obtained through the Urban Forester (329-4531).*

SECURITY:

The CONTRACTOR shall be responsible for protection of the site, and all work, materials, equipment and existing facilities thereon, against vandals and other unauthorized persons.

No claim shall be made against the OWNER by reason of any act of an employee or trespasser, and the CONTRACTOR shall make good all damage to the Owner's property resulting from his failure to provide security measures as specified.

Security measures shall be at least equal to those usually provided by the OWNER to protect his existing facilities during normal operation, but shall also include such additional security fencing, barricades, lighting, watchman services and other measures as required to protect the site.

PARKING:

The CONTRACTOR under Contract shall provide and maintain suitable parking areas for the use of all construction workers and others performing work or furnishing services in connection with the Project as required to avoid any need for parking personal vehicles where they may interfere with public traffic, Owner's operations or construction activities.

TEMPORARY DRAINAGE PROVISIONS:

The CONTRACTOR shall provide for the drainage of storm water and such water as may be applied or discharged on the site in performance of the Work. Drainage facilities shall be adequate to prevent damage to the Work, the site, and adjacent property.

NOISE CONTROL:

The CONTRACTOR shall take reasonable measures to avoid unnecessary noise. Such measures shall be appropriate for the normal ambient sound levels in the area during working hours. All construction machinery and vehicles shall be equipped with practical sound muffling devices, and operated in a manner to cause the least noise consistent with efficient performance of the Work.

EROSION CONTROL:

The CONTRACTOR shall be familiar with the applicable provisions of the North Carolina Sedimentation Pollution Control Act of 1973, General Statutes, Chapter 113A, and Article 4. The CONTRACTOR shall prevent erosion of soil on the site and adjacent property resulting from his construction activities. Effective measures shall be initiated prior to the commencement of clearing, grading, excavation, or other operation that will disturb the natural protection.

Work shall be scheduled to expose areas subject to erosion for the shortest possible time, and natural vegetation preserved to the greatest extent practicable. Temporary fast growing vegetation or other suitable ground cover shall be provided as necessary to control runoff.

POLLUTION CONTROL:

The CONTRACTOR shall prevent the pollution of drains and watercourses by sanitary wastes, sediment, debris and other substances resulting from construction activities. No sanitary wastes will be permitted to enter any drain or watercourse other than sanitary sewers. No sediment, debris or other substance will be permitted to enter sanitary sewers and reasonable measures will be taken to prevent such materials from entering any drain or watercourse.

END OF SECTION 01500

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SECTION 01575 – MAINTENANCE AND PROTECTION OF TRAFFIC

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. Work of this section shall be performed in accordance with the requirements of the North Carolina Department of Transportation.
- B. Provide necessary traffic control measures and devices as required.
- C. Provide all bonds necessary to complete the work as the North Carolina Department of Transportation requires.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. All traffic control measures and devices shall conform to the requirements of the North Carolina Department of Transportation's Specifications, more specifically, the N.C.D.O.T. Construction and Maintenance Operation Supplement to the Manual on Uniform Traffic Control Devices, as amended.

PART 3 - EXECUTION

3.1 IMPLEMENTATION

- A. All traffic control measures and devices shall conform to the requirements of the N.C.D.O.T. Specifications, more specifically, the N.C.D.O.T. Construction and Maintenance Operation Supplement to the Manual on Uniform Traffic Control Devices, as amended.
- B. The Engineer has the authority and will suspend all work immediately until all N.C.D.O.T. requirements are met.

3.2 MAINTENANCE OF ACCESS

- A. The Contractor is required to maintain residents' access to their property. At the close of the working day, all driveways will be restored to a usable condition. The Contractor

will fill the trench through the driveway so that the Owners will not damage vehicles when passing. Pavements will be replaced within five (5) working days.

- B. Additionally, the Contractor is required to maintain the mail carriers' access to mailboxes. At the close of each working day, all mailboxes and mailbox approaches will be restored to a usable condition as needed. Compacted fill and ABC stone shall be placed in front of and on approaches to the mailboxes as necessary and will be included in the cost per linear foot of pipe.
- C. The Contractor will coordinate his activities with the Owners' of adjacent properties so as to allow the residents an opportunity to remove their vehicles during periods when driveways are cut or paved and access is not possible.

END OF SECTION 01575

PROJECT SPECIAL PROVISIONS

PSP-1. LOCATIONS TO BE RESURFACED BEFORE JULY 31st:

A table of streets is included in the bid form. For purposes of scheduling, the following streets shall be scheduled for completion before July 31, 2024. This includes all associated work, including striping, adjustments, ramps, seeding, backfill and speed cushion installation:

| Listed locations must be completed by July 31 st | | | |
|---|-----------------------|-----------------------|---------------|
| Name | From | To | Application |
| Anderson St | E 10 th | E 11 th St | Mill and Fill |
| Briarcliff Dr | Ellsworth Dr | Street End | Mill and Fill |
| Lawrence St | E 10 th St | E 11 th St | Mill and Fill |
| E. 4 th St | Reade St | Elm St | Mill and Fill |
| *All Micro Paving locations. | | | Micro Paving |
| *All Crack Seal locations. | | | Crack Seal |

School locations: Where streets to be milled and resurfaced are adjacent to school locations, the contractor is responsible for adjusting the hours of operation so there is no conflict with normal school hour operations.

Failure to complete the locations listed above prior to July 31, 2024 will incur liquidated damages of \$1,400 per day beginning on August 1, 2024.

PSP-2. ON STREET PARKING:

Streets with on-street parking that are intended to be milled and resurfaced must be signed “No Parking” at least 48 hours in advance of work commencing. It will be the responsibility of the contractor to obtain and install these signs according to his schedule. Signs will be provided by The City of Greenville. The signs will be obtained from the Engineering Department, John Paul Harrell, Construction Project Manager I, by calling 252-329-4887.

A schedule must be submitted at the Pre-Construction meeting and before installing signs. This schedule will be provided to Parking Services with the City of Greenville. The Contractor will supply City of Greenville Project Manager with photos of signs installed with a timestamp. The photos will then be sent to City of Greenville Parking Enforcement for proof on installation. This proof will be necessary for any towing done by Parking Enforcement. Contacting NC811 for locates, as well as providing all supports, hardware, tools, equipment, etc. necessary to install and/or relocate the signs as needed shall be the responsibility of the contractor.

Signs shall be installed at the beginning and end of each street with on-street parking, on each side that provides such parking. Additional intermediate signs shall be placed within 50 feet of all intersecting streets and spaced not more than every 400 feet thereafter.

It shall be the responsibility of the contractor to maintain all signs obtained from the Traffic Services Division. Should any signs be damaged during the work of the project, or should any signs not be returned, the City will assess a fee of \$200 per damaged or unreturned sign, and such fee shall be deducted from the next partial payment invoice.

Signs shall be removed from fully completed streets within 72 hours. Streets will be considered fully completed after all items on said street are properly accepted during final walkthrough. If there are any punch list items they must be completed first before signs shall be removed.

PSP-3. TRAFFIC CONTROL:

The Contractor shall be responsible for maintaining an approved Traffic Control Plan during the course of this work. The Traffic Control Plan implemented for this project shall be devised through a joint effort of the Director of Engineering, or designee, and the Contractor immediately prior to construction. **The Contractor at the pre-construction conference shall submit a complete Traffic Control Plan for each multi-lane street being resurfaced, milled or striped.**

In all instances the Contractor shall utilize complete and proper traffic controls and traffic control devices during all operations. **All traffic control and traffic control devices required for any operation shall be functional and in place prior to the commencement of that operation.** Signs for temporary operations shall be removed during periods of inactivity. The Contractor is required to leave the project in a manner that will be safe to the traveling public and which will not impede motorists.

All traffic control and traffic control devices shall conform to the requirements of the latest National Manual on Uniform Traffic Control Devices.

The Contractor is hereby advised that full compliance with the approved Traffic Control Plan will be required. Any modifications requested by the Contractor must meet the approval of the Director of Engineering or designee. **Failure to provide, implement and maintain the approved Traffic Control Plan as described above will result in an immediate verbal “Stop Work” order from the Director of Engineering or designee with no work continuing until necessary corrective measures have been performed.** Work stoppages shall be the expense of the Contractor and no additional payment shall be allowed. No additional contract extension days shall be provided to the Contractor due to the “Stop Work” order.

Flaggers stationed at each end of the work zone shall control traffic movements through lane closures on roads with two-way traffic. In situations where sight distance is limited, the Contractor shall provide additional means of controlling traffic, including, but not limited to, two-way radios, pilot vehicles, or additional flaggers. **Flaggers shall be competent personnel, adequately trained in flagging procedures, and furnished with proper safety devices and equipment, including, but not limited to, safety vests and stop/slow paddles.**

All personnel when working in traffic areas or areas in close proximity to traffic shall wear an approved safety vest, or shirt or jacket which meets the color requirements of the Manual of Uniform Traffic Control Devices (MUTCD).

The Contractor shall comply with all applicable Federal, State, and Local laws, ordinances, and regulations governing safety, health, and sanitation, and shall provide all safeguards, safety devices, and protective equipment, and shall take any other needed actions, on his own responsibility that are reasonably necessary to protect the life and health of employees on the job and the safety of the public, and to protect property in connection with the performance of the work covered by the contract.

PSP-4. VEHICULAR ACCESS:

Maintain continuous and safe vehicular access, including but not limited to all residences, businesses, schools, police and fire stations, hydrants, other emergency services, hospitals and mailboxes. Conduct operations in such a manner as to limit the inconvenience to property owners.

PSP-5. EMERGENCY SERVICES NOTIFICATION:

Before any street being closed to traffic, the contractor shall notify the Emergency Services Dispatchers. The contractor may call the 911 system at 252-329-4315 and request that police, fire, Sheriff and EMT personnel be notified, or the contractor may call each service individually.

The contractor will make provisions for access to all parts of the work for emergency vehicles (police, rescue, fire). The contractor will help in providing personnel to deliver sanitary pickup cans and materials to a point where the City crew or City's contractor can load their carrier.

PSP-6. WORK SCHEDULE:

The Contractor shall be required to furnish an anticipated schedule of work at the time of the pre-construction conference. The schedule should be based on the priorities established by the City. No progress payments, including mobilization, shall be made to the contractor until the schedule is reviewed and approved by the City. The Construction Schedule will be updated every 4 weeks. Monthly progress payments will not be processed until the proposed monthly Construction Schedule is submitted with the monthly pay request. **A "Weekly Work Schedule" shall be submitted to the Director of Engineering or designee on each Thursday no later than 12:00 noon to be placed on the City of Greenville's social media outlets.**

This schedule will be subject to approval by the Director of Engineering or designee. The Contractor shall provide at least 24 hour notice to the Director of Engineering or designee prior to the commencement of any paving operations.

During day time operations any initial asphalt placement on a new street not started by 1:00PM on any given day shall be suspended for the remainder of that particular day at no cost to the City with no additional contract extension days being provided to the Contractor. **Every effort will be made by the Contractor to start work as early as possible or as traffic lessens. There will be no milling, paving, shoulder work or striping allowed after 5:00 pm of each day.**

Due to complications involved in notifying the public of plans to close streets for construction, the Contractor shall make every effort to honor street closings schedules exactly.

*****Deviations from the agreed schedule will require re-notification of the public and may cause construction delays chargeable to the Contractor. *****

Contractor shall maintain continuous prosecution of the project. The City defines this as once construction commences, all available workdays will be used to complete this project as swiftly as possible. Failure to comply will result in liquidated damages being charged. **The**

Contractor shall not work on holidays or weekends at no cost to the City with any additional contract extension days being provided to the Contractor. The Contractor may ask to work on such holidays or weekends at the discretion of the Engineer, but will be subject to advance notice requirements and reimbursement for inspection services outside of normal working hours as outlined elsewhere herein.

Any asphalt produced and or installed for this contract on holidays or weekends without a City representative on site shall be at the expense of the Contractor and at no cost to the City.

PSP-7. PUBLIC RELATIONS:

Good public relations are imperative to the City of Greenville. As a part of the public relations effort, the Contractor shall be required to hang “door knocker” type notices at affected residences or businesses at least 24 hours prior to paving operations. The “door knockers” shall be prepared by the Contractor and reviewed/approved by the City of Greenville. The notice shall show the correct date range, within reason, of the proposed paving. **Deviations from the agreed schedule will require re-notification of the public at least 24 hours prior to paving operations. Any asphalt produced and or installed for this contract without “door knockers” type notices being placed at affected residences at least 24 hours prior to paving operations shall be done at the expense of the contractor and at no cost to the City with no additional contract extension days being provided to the Contractor.**

PSP-8. INSPECTIONS:

The Contractor shall clean all gutters, storm drainage boxes, driveways and other contract items of all dirt, debris, tack, and asphalt caused by contract construction. This shall be completed before final inspection will be made. The City will not inspect the improved areas until they are cleaned. Failure by the City to do final inspection if the areas are not cleaned shall not relieve the contractor of any liquidated damages.

INSPECTION SCHEDULE

1. Periodic inspections
2. End of project inspections (final punch list will be generated)
3. Final inspection is when all punch list items have been corrected
4. Inspection at the end of warranty period
5. Any additional inspections deemed necessary by the City.

PSP-9. CUTTING OF SHOULDERS:

Cut roadway shoulders back to the existing pavement edge prior to paving. The Contractor should include all costs associated with this item in the unit bid price for other items in the proposal.

PSP-10. BACKFILL OF SHOULDERS/ ROADWAY EDGES:

Where directed by the Director of Engineering or designee, the Contractor shall fill, grade, and prepare areas adjacent to the newly paved ribbon pavement surface with a topsoil type material. These areas will extend a minimum of two (2) feet and a maximum of three (3) feet from the edge of the new or existing asphalt edge and shall be properly prepared prior to seeding and mulching.

Shoulder construction shall immediately follow paving operations and in no case shall paving operations exceed shoulder operations by more than 5 (five) days without written permission of the Director of Engineering or designee. Failure to meet this requirement shall be cause to cease paving operations until it can be met at no cost to the City with no additional contract extension days being provided to the Contractor.

PSP-11. INCIDENTAL STONE BASE FOR DRIVEWAYS:

Place a minimum of compacted 4" incidental stone base where directed by the Director of Engineering or designee between the existing or new pavement edge and existing soil or marl driveways immediately after paving and do not have the paving operations exceed stone base placement by more than two (2) days. The final elevation of the compacted incidental stone base shall be flush with the final surface course elevation and flush with the existing soil or marl driveway surface creating a smooth transition.

PSP-12. CASTING ADJUSTMENTS WITHOUT ADJUSTMENT RINGS (WATER VALVES, CLEAN OUTS & CHANGING OUT NON-STANDARD TO STANDARD MOMUMENT CASTINGS:

All castings designated to be adjusted shall be completed **without** the use of adjustment rings unless otherwise noted herein. All castings adjusted for the paving operations must have asphalt "ramps" installed within 24 hours of final casting grade adjustment. Lighted barricades are to be placed over castings until asphalt "ramps" are installed. Monthly progress payments **will not** be processed if there are any ramps not installed in accordance with this paragraph. Asphalt "ramps" must be removed before placing final course of asphalt. Cost of asphalt used is incidental to the casting adjustment. If these provisions are not complied with, the castings shall be paid at ½ of the bid price and will not be paid until final payment. All castings shall be raised prior to final surface course placement. The Contractor shall be entirely responsible for all settlement over any and all trenches, excavations and areas where castings were adjusted at any time prior to the completion of his contract, and for a period of twelve (12) months after completion of his contract. Asphalt patch or millings is required to patch any adjustments until paving, however other methods suggested by the contractor may be approved by the City for use.

NCDOT approved releasing agents shall be used on the castings prior to paving. (FUEL OIL IS NOT PERMITTED).

A 10' straightedge shall be placed across all castings by the Contractor parallel to and perpendicular to the centerline of the final surface course after finish rolling has been completed. Any casting which exceed 1/8" (one eighth inch) variation from the surface being tested from the edge of the 10' straightedge to any one or more contact points of the adjusted casting shall be reset to finished grade by the Contractor at no cost to the City.

PSP-13. MIX DESIGN AND JOB MIX FORMULA FOR BITUMINOUS CONCRETE:

Asphalt mixture production and composition of Superpave mixes for this project shall be performed according to the most recent version of the North Carolina Department of Transportation Standard Specifications For Roads and Structures.

If Recycled Asphalt Pavement (RAP) and Recycled Asphalt Shingles (RAS) is to be proposed as part of the mix, the Contractor is allowed to use up to a maximum of 15% (RAP)

and (RAS) by weight of the total recycled mixture and must comply with Article 610-3 of the North Carolina Department of Transportation Standard Specifications For Roads and Structures.

A homogenous, smooth surface is required and additional methods may be required by the Director of Engineering or designee to achieve this (i.e. the use of a rubber tired roller). The Contractor shall furnish to the City NCDOT approved bituminous concrete mix designs for each mix type, which shall include unit weights. These mix designs shall be furnished at the pre-construction conference. Should the materials to be used, or the mix design change, revised mix designs shall be furnished to and approved by the Director of Engineering prior to placement of any of the new mix.

It should be noted that the contract bid items do not distinguish between recycled mixes and standard virgin mixes. Payment for a given type of mix will be at the bid unit price for the mixture including binder, regardless of whether or not a recycled mixture is used.

PSP-14. VIBRATING WHEEL ROLLERS:

Vibrating wheel rollers shall consist of a self-propelled drum wheel roller having a number and weight of rollers sufficient to compact asphalt to the required density and having a vibratory motor unit capable of causing an effective vibration of asphalt being compacted.

PSP-15. RUBBER TIRED ROLLERS:

The rubber tired rollers shall consist of two axles on which are mounted not less than 9 pneumatic tired wheels in such a manner that a rear group of tires will not follow in the tracks of the forward group. The axles shall be mounted in a rigid frame provided with a loading platform or body suitable for ballast loading. The tires shall be uniformly inflated and shall be weighted as per manufacturer recommendations. The tractor or other towing equipment shall also be pneumatic tired. These rollers will be used in sections of roadway with pipe issues. These will be identified in the pre-construction meeting.

PSP-16. PAVEMENT MARKINGS:

The Contractor prior to the placement of any pavement to ensure the ability to re-establish the markings to their pre-paving condition will mark streets that have existing striping.

For all two-lane, two-way facilities, place all permanent centerline markings, railroad and school symbols within 7 calendar days after they have been obliterated by the Rehabilitation & Preservation operation. Place all edge lines and other symbols within 15 calendar days after they have been obliterated by the Rehabilitation & Preservation operation. If this action cannot be done within the allotted time, then the use of temporary paint as provided by the bid form will be used until Thermoplastic Contractors can be scheduled.

For all multi-lane facilities, at the end of each day's operation the contractor shall provide temporary paint pavement markings to facilitate normal traffic operations after milling or Rehabilitation & Preservation has obliterated existing markings. This work shall be paid according to the bid form temporary paint line items.

PSP-17. CLEAN UP AND RESTORATION:

The safety and preservation of adequate access for residents is a critical aspect of this project. The Contractor, during the course of his work, shall maintain and clean up the construction

area including but not limited to removal of all debris, excess asphalt, fabric packaging, replacement or restoration of damaged railing, mailboxes, access, public safety items, excess soil and miscellaneous items. The Contractor shall make the work area safe at the end of each day. All marl or soil driveways adjacent to ribbon pavement shall have ABC marl installed immediately after paving operations are completed.

PSP-18. CONCRETE WORK:

All Concrete work next to the roadway shall be done before paving begins on that street. This work will be inspected by contracted CEI and approved by the OWNER before paving starts.

PSP-19. RADIUS FOR PAVING:

Minor roadways shall be milled and paved into the radiuses. Major roadways will stop before radiuses. If there is an existing joint already established on the roadway different than stated above, refer to City of Greenville Engineer for direction.

PSP-20. CLEANING OF TRUCK BEDS:

Cleaning truck beds of excess asphalt in front of the paver shall not be permitted under any condition

PSP-21. SPEED CUSHIONS:

Speed cushions shall meet the following specifications as manufactured by TRAFFICLOGIX or approved equal. Selected cushion shall be submitted for the Engineer's approval before installation. Installation will require supervision of a City of Greenville traffic technician. Contact City of Greenville project manager one week prior to installation to schedule technician.

PSP-23. MICRO SURFACING:

Micro Surfacing will be installed according to the attached Appendix A on the specifications for Micro Surfacing.

PSP-24. CRACK SEALING:

Crack Sealing will be installed according to NCDOT 2018 Standard Specifications, Section 657.

PSP-25. CAPE SEAL:

Cape Seal will be installed according to the attached Appendix F on the specifications for Cape Seal.

PSP-26. REJUVINATOR:

Rejuvenator will be installed according to the Attached Appendix E on the specifications of Rejuvenator.

PSP-27. MILLING OPERATIONS:

Milling will be performed at a depth of 2" for the outer seven feet of each side of each street, with the remaining middle portion of each street milled at a depth of 1". A 2" overlay of asphalt surface course will still be applied across the whole roadway.

PSP-28. TRACKLESS TACK:

Trackless tack shall be used as the tack coat material. Trackless tack material shall be incidental to the asphalt surface course.

Apply tack coat material to existing asphalt or concrete surfaces in accordance with NCDOT Specifications. Apply tack coat only when the surface to be treated is sufficiently dry and when the atmospheric temperature in the shade away from artificial heat is 35°F or above. Do not apply tack coat when the weather is foggy or rainy.

Clean the existing asphalt or concrete surface to which tack coat is to be applied of all dust and foreign material prior to placing the tack coat. Remove grass, dirt, and other materials from the edge of the existing pavement prior to the placement of tack coat. Apply tack coat uniformly at a rate from 0.04 to 0.08 gallons per square yard. Where public traffic is being maintained, apply only as much tack coat as can be covered during the same day's operation. In the event that tack coat material is not covered in the same day's operation, the Engineer may require the application of suitable granular material or other means to provide a safe traffic condition at no additional cost to the City. Take necessary precautions to limit the tracking and/or accumulation of tack coat material on either existing or newly constructed pavements. Excessive accumulation of tack may require corrective measures. Apply tack coat as directed by and in the presence of the Inspector. Do not place any asphalt mixture until the tack coat has sufficiently cured.

Sand, screenings, or other environmentally safe products may be required to prevent tracking the tack coat onto adjacent streets, when directed by the Engineer. The sand screenings shall be minimum length in order for a haul truck tire to make one full rotation and remain in contact with the screenings. The width shall be the same as the existing roadway. The Contractor shall remove screening materials placed to eliminate tracking upon completion of paving operations each day. Tack coat material will not be tolerated on the exposed face of curb and gutters. If this occurs, the tack shall be removed as soon as practicable. Special attention shall be utilized while paving in areas with existing granite curb and gutter.

PSP-29. COMPLETION OF CURB RAMPS:

For each curb ramp location on a continuous pedestrian facility, the Contractor shall complete all work required of that curb ramp location as shown in the plans including backfilling and seeding.

The date of availability for each individual intermediate contract time is the date when the Contractor elects to sever the existing continuous pedestrian facility.

The completion date for each individual intermediate contract time is the date which is **seven (7)** consecutive calendar days after and including the date of availability.

For each curb ramp location on a continuous pedestrian facility, the liquidated damages are **Two Hundred and Fifty Dollars (\$250.00)** per calendar day.

SPECIFICATIONS
For
Micro Surfacing
Appendix A

MICROSURFACING:

(7-1-95) (Rev. 7-18-23)

SPI 6-18

Description

This provision covers the materials, equipment, construction and application procedures for rut filling and/or surfacing of existing paved surfaces in accordance with the contract. The microsurfacing system shall be a mixture of cationic latex modified asphalt emulsion, mineral aggregate, mineral filler, water and other additives, properly proportioned, mixed and spread on the paved surface in accordance with this provision and as directed by the Engineer.

Materials

(A) Latex Modified Emulsified Asphalt

The emulsified asphalt shall be a cationic type CQS-1hLM and shall conform to AASHTO M 208 or ASTM D2397. In general, 3% polymer solids, based on asphalt weight, is considered minimum. The ring and ball softening point of the residue shall be a minimum of 135°F. It shall show no separation after mixing. The cement mixing test is waived for the latex modified CQS-1hLM.

(B) Mineral Aggregate

The mineral aggregate used shall be compatible with the latex modified emulsified asphalt and can produce a good skid resistant surface. The aggregate shall meet requirements in Article 1012-1 of the *Standard Specifications*.

(C) Mineral Filler

Mineral filler shall be any recognized brand of non-air entrained Portland cement that is free of lumps or hydrated lime meeting the requirements of ASTM D242. It may be accepted upon visual inspection.

(D) Water

The water shall be potable and shall be free of harmful soluble salts in accordance with Article 1024-4 of the *Standard Specifications*.

(E) Latex Modifier

A latex based modifier, certified from an approved source, along with special emulsifiers shall be milled into the asphalt emulsion by an approved emulsion manufacturer. The latex modified emulsified asphalt shall be so formulated that when the paving mixture is applied at a thickness of one inch it will cure sufficiently so that rolling traffic can be allowed back on the pavement in one hour with no damage to the surface.

(F) Other Additives

The additives are any other materials that are added to the emulsion mix or to any of the component materials to provide the specified properties. The additives shall be supplied by the emulsion manufacturer to provide control of the set time in the field.

Mix Design

The Contractor is required to design the asphalt mix and to obtain an approved Job Mix Formula (JMF) issued by the Department. A mix design and proposed JMF targets for each required mix type and combination of aggregates must be submitted in electronic format to the Materials and Tests Unit for review and approval at least 10 days prior to start of asphalt mix production. The mix design shall conform to the International Slurry Surfacing Association's ISSA A143, Section 5.2.

Compatibility of the aggregate test results and a certificate of analysis (COA) for the latex modified CQS-1hlm shall be submitted with the mix design.

Aggregate used in the job mix formula shall be of the material proposed by the Contractor for use on the project.

The gradation of the aggregate shall be in accordance with the following:

| Screen Size | Type II (% passing) | Type III (% passing) | Stockpile Tolerance |
|-------------|---------------------|----------------------|---------------------|
| 3/8" | 100 | 100 | |
| #4 | 90 - 100 | 70 - 90 | ± 5 |
| #8 | 65 - 90 | 45 - 70 | ± 5 |
| #16 | 45 - 70 | 28 - 50 | ± 5 |
| #30 | 30 - 50 | 19 - 34 | ± 5 |
| #50 | 18 - 30 | 12 - 25 | ± 4 |
| #100 | 10 - 21 | 7 - 18 | ± 3 |
| #200 | 5 - 15 | 5 - 15 | ± 2 |

The gradation of the aggregate stockpile shall not vary by more than the stockpile tolerance from the mix design gradation (indicated in the table above) while also remaining within the specification gradation band. The percentage of aggregate passing any 2 successive sieves shall not change from one end of the specified range to the other end. (The #200 sieve material shall not vary by more than ± 2 of the JMF value.)

The aggregate will be accepted at the job location or stockpile based on 5 gradation tests sampled according to AASHTO T 2. If the average of the 5 tests is within the stockpile tolerance from the mix design gradation, the material will be accepted. If the average of those test results is out of specification or tolerance, the Contractor will be given the choice to either remove the material or blend additional aggregate with the stockpile material to bring it into compliance. Materials used in blending shall meet the required aggregate quality test specifications in Section 1012 of the

Standard Specifications before blending and shall be blended in a manner to produce a consistent gradation.

Aggregate blending may require a new mix design. Screening shall be required at the stockpile if there are any problems created by oversized materials in the mix.

Type II aggregate gradation is used to fill surface voids, address surface distresses, seal and provide a durable wearing surface.

Type III aggregate gradation provides maximum skid resistance and an improved wearing surface. This type of microsurfacing is appropriate for heavily traveled pavements or for placement on highly textured surfaces requiring larger size aggregate to fill voids. Type III microsurfacing shall be used for rut filling, and as a leveling course as part of a two lift or Double Course Micro Surfacing application.

The mineral aggregate shall be weighed by means of scale approved by the Engineer before delivery to the job site. Emulsified asphalt shall be weighed by means of approved scales or be measured by volume.

Precautions shall be taken to ensure that stockpiles do not become contaminated.

Samples for gradation will be taken from aggregate stockpiles designated by the Contractor for use. Samples for asphalt content shall be taken from the completed mix. Samples of aggregate and filler will be taken at the job site. The frequency of sampling and testing will be established by the Engineer based upon the Department's current acceptance program. The asphalt content will be determined by AASHTO T 308 modified.

Equipment

Use equipment that meets ISSA A143 Section 6.

Each mixing unit to be used in performance of the work shall be calibrated in the presence of the Engineer before beginning the work. Submit calibration documentation to the Engineer. Any equipment replacement affecting material proportioning requires that the machine be recalibrated. No machine will be allowed to work on the project until the calibration has been accepted.

Construction Methods

(A) Weather

The material shall be placed only when the surface is dry and the atmospheric and surface temperature is at least 50°F and rising and there is no chance of temperatures below 32°F within 24 hours from the time the material is applied. The material should not be placed when the atmospheric temperature is 50°F and falling or if rain is imminent. Clouds, fog, excessive humidity or shady conditions can slow break time of the mixture.

(B) Surface Preparation

Immediately prior to applying the paving mixture the surface shall be thoroughly cleaned of all vegetation, loose materials, dirt, mud, and other deleterious materials. If water is used, cracks shall be allowed to dry thoroughly before applying microsurfacing. Manholes, valve boxes, drop inlets and other service entrances shall be protected from the microsurfacing by a suitable method. Remove all pavement marking lines, symbols, and characters unless otherwise approved by the Engineer prior to microsurfacing in accordance with Subarticle 1205-3(I) of the *Standard Specifications*.

(C) Tack Coat for Microsurfacing

The tack coat used should conform to the manufacturer's recommendation for the microsurfacing product being applied. Tack coat shall be applied according to Section 605 of the *Standard Specifications*. The emulsified asphalt used for tack coat shall be CSS, CQS, CRS or the microsurfacing emulsion diluted to one part emulsified asphalt to 2 or 3 parts water, as approved by the Engineer. Consult with the microsurfacing emulsion supplier to determine dilution stability. The distributor shall be capable of applying the diluted tack coat evenly at a rate of 0.08 to 0.15 gallons per square yard as required by the Engineer. The tack coat shall be allowed to cure sufficiently before the application of microsurfacing.

(D) Application

When rutting or deformation is less than 0.5 inch, a full width scratch course may be applied with the spreader box using a metal or stiff rubber strike-off. Apply at a sufficient rate to level the pavement surface. The mixture shall be spread to fill minor cracks, minor surface irregularities, and shallow potholes and leave a uniform high-skid resistant application of aggregate and asphalt on the surface. Approved squeegees shall be used to spread the mixture in areas inaccessible to the spreader box and other areas hand spreading may be required. Ruts that are greater than 0.5-inch depth shall be filled independently by means of a box specifically designed for that purpose. The box shall be 5 to 6 feet in width and have a dual chamber with an inner "V" configuration of augers to channel the large aggregate to the center of the rut and the fines to the edges of the rut fill pass. The box shall be equipped with dual steel strike-off to control both the width and depth of the rut fill. All rut-filling and leveling material should cure under traffic for at least 24 hours before additional material is placed.

A sufficient amount of surface sealer shall be carried to all parts of the spreader box at all times so that complete coverage is obtained. Water in very limited quantity may be sprayed into the spreader box to prevent build-up on the blades to facilitate spreading without harming the mix. No lumping, balling, or unmixed aggregate shall be permitted in the finished surface. Any oversized aggregate or foreign materials shall be screened from the aggregate prior to delivery to the mixing machine. Microsurfacing for the final surface course shall be placed at a total application rate of 18 to 22 pounds per square yard for Type II and 22 to 26 pounds per square yard for Type III.

When a Leveling and Surface Course are both specified as a Double Course Micro Surfacing, apply the Leveling Course at a minimum of 18-20 pounds per square yard of Type III dry aggregate weight and the Surface Course at a minimum of 16-18 pounds per square yard of Type II dry aggregate weight. Apply the two courses at a minimum combined rate of 34 pounds per square yard of dry aggregate weight.

In restricted areas where hand spreading is necessary, slight adjustments to the mix formula may be required to slow setting time. The paving mixture shall be poured into a small windrow along one edge of the surface to be covered. The mixture then shall be spread uniformly by a hand squeegee or lute.

The seam where two passes join shall be neat in appearance and uniform.

All excess material shall be removed from ends of each run immediately on surface course.

(E) Curing

Breaking should occur within 5-10 minutes. Curing of microsurfacing placed at 0.5 inches thick should generally be allowed to take place without traffic interruption for 30 – 90 minutes. The Contractor shall determine the appropriate curing time of the microsurfacing before it is opened up to traffic. Adequate means shall be provided to protect the microsurfacing from damage by traffic until the mixture has cured sufficiently so that it will not adhere to or be picked up by the tire of vehicles. Adjust mixture properties according to humidity and temperature conditions if curing is not occurring within 90 minutes. Stopping and starting traffic may require additional curing time. All rut-filling and level-up material and first lift in two lift areas should cure under traffic for at least 24 hours before additional material is placed. During the curing time, the temperature cannot drop below 32°F. If temperatures drop below 32°F, this time does not count towards the curing requirements.

Any damage done by traffic to the microsurfacing shall be repaired by the Contractor.

(F) Test Strip

A test strip shall be placed with job site materials and approved by the Engineer. The test strip shall be a minimum of 500 feet and constructed at the beginning of the first day of production and after, as directed by the Engineer. The weather and time of day, day or night, during the test strip shall be similar to expected conditions during construction. Upon completion of the test strip the Engineer will approve the mixture for proper curing and placement.

Workmanship

Immediately take corrective action if microsurfacing material is exhibiting evidence of poor workmanship, delayed opening to traffic, or surface irregularities, including excessive scratch marks, drag marks, tears, streaks, raveling, delamination and segregation. After

immediately contacting the Pavement Preservation Engineer in the Materials and Tests Unit, the Engineer may allow placement to continue for no more than 1 day of production while the Contractor takes corrective action and/or takes corrective action as directed by the Engineer. If workmanship issues persist after the 1-day period, the Engineer will suspend paving until corrective action is taken to the satisfaction of the Engineer.

(A) Finished Surface

Provide a finished surface with a uniform texture free from excessive scratch marks, tears, or other surface irregularities. Marks, tears, or irregularities are considered excessive if:

- (1) More than 1 irregularity is at least 1/4 inch wide and at least 10 feet long in any 100 foot pull
- (2) More than 3 irregularities are at least 1/2 inch wide and more than 6 feet long in any 100 foot pull
- (3) Any are 1 inch wide or wider and more than 4 inch in length

(B) Construction Joints

Place mixture so that longitudinal joints on the surface course coincide with lane lines, or as directed by the Engineer. Provide longitudinal and transverse joints that are uniform and neat in appearance. Provide construction joints that have limited buildup and no gaps between applications. Joints with buildup will be considered acceptable if:

- (1) No more than 1/2 inch vertical space exists between the pavement surface and a 4 foot straightedge placed perpendicular to the longitudinal joint and
- (2) No more than 1/4 inch vertical space exists between the pavement surface and a 4 foot straightedge placed perpendicular to the transverse joint.

(C) Edges

Provide an edge along the roadway centerline, lane lines, shoulder, edge of pavement, or curb line that is uniform and neat in appearance. The edge is considered acceptable when:

- (1) It varies no more than 3 inches from a 100 foot straight line on a tangent section and
- (2) It varies no more than 3 inches from a 100 foot arc on a curved section.

(D) Miscellaneous Areas

Use a single-batch-type-lay-down machine or approved method to place materials on ramps or other short sections. Apply tack coat uniformly at the rate as shown in the contract, unless otherwise directed by the Engineer. Provide uniform coverage of appearance and comparable to that produced by the spreader box.

Measurement and Payment

- (A) *Latex Modified Microsurfacing Type* __ will be measured along the top surface of the completed work, placed and accepted as specified herein. Payment will be made at the

contract unit price per square yard for the type specified, which price will be full compensation for all materials including modifiers and additives, emulsion, aggregate, tack coat, labor, tools, equipment, and all other incidentals necessary to complete the work.

Removal of Pavement Marking Lines, ___” and Removal of Pavement Marking Symbols & Characters will be measured and paid for in accordance with Article 1205-10.

(B) When rut filling and leveling course are needed, measurement and payment is as follows.

Latex Modified Emulsion will be measured and paid at the contract unit price per gallon, which price will be full compensation for all materials including modifiers and additives, tack coat, labor, tools, equipment, and all other incidentals necessary to complete the work.

Aggregate, Type III will be measured and paid at the contract unit price per ton which price will be full compensation for all material, including mineral filler, labor, tools, equipment, and maintenance of traffic and all incidentals necessary to complete the work.

Removal of Pavement Marking Lines, ___” and Removal of Pavement Marking Symbols & Characters will be measured and paid for in accordance with Article 1205-10.

CONCRETE RAMP
LOCATIONS FOR 2024
REHABILITATION &
PRESERVATION
CONTRACT

APPENDIX B

Note: *It is the responsibility of the Contractor to coordinate any utility moves or adjustments that may be required during installation of ramp upgrades.*

2024 Ramp Upgrades



Eastern Corner of Kristin Dr and Greenville Blvd will need to be a Type I ramp.



South Western Corner of Lawrence and 11th will need to be a Type I ramp.



South Eastern Corner of
Lawrence and 11th will need to
be a Type I ramp



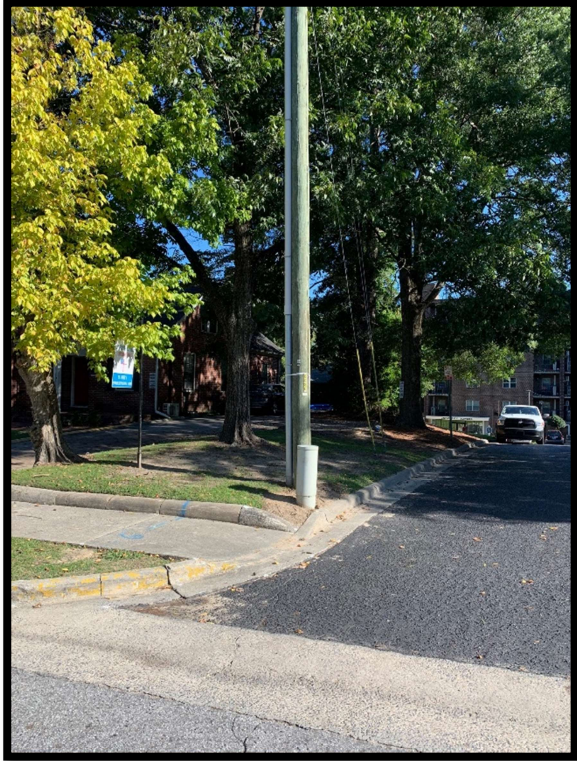
Type 4s to be installed on
the Northern ramps
entering the ECU parking
close to Reade St. on 4th
St.



Type 4s to be installed on the Southern ramps entering the ECU parking close to Reade St. on 4th St.



Type 3 to be installed at the Handicap spot by the Church on the North Side of 4th.



Type I at the entrance to the high rise building on the North Side of 4th St on the western ramp.



Type 4 to opposite side of the high rise entrance on the eastern ramp.



A Type 3 to be installed at South Eastern corner of Eastern and 4th St. Stop sign and guide wires may need relocation.



Type 1 on South Eastern corner of 4th and Maple.

GUC VALVES MAPS
FOR ADJUSTMENT/REPLACE

2024 REHABILITATION & PRESERVATION
CONTRACT

APPENDIX C

GPS accuracy 114.8 ft · 30 ft required

Distribution Valve # 1319 ✕
 35.609491°N 77.390828°W 2.8 mi

Size: 2"
 Material: Steel
 Type: Unknown
 Trench Size: 0.000000
 Turns to Close: 0.000000
 Inspection Zone: 1

ATED

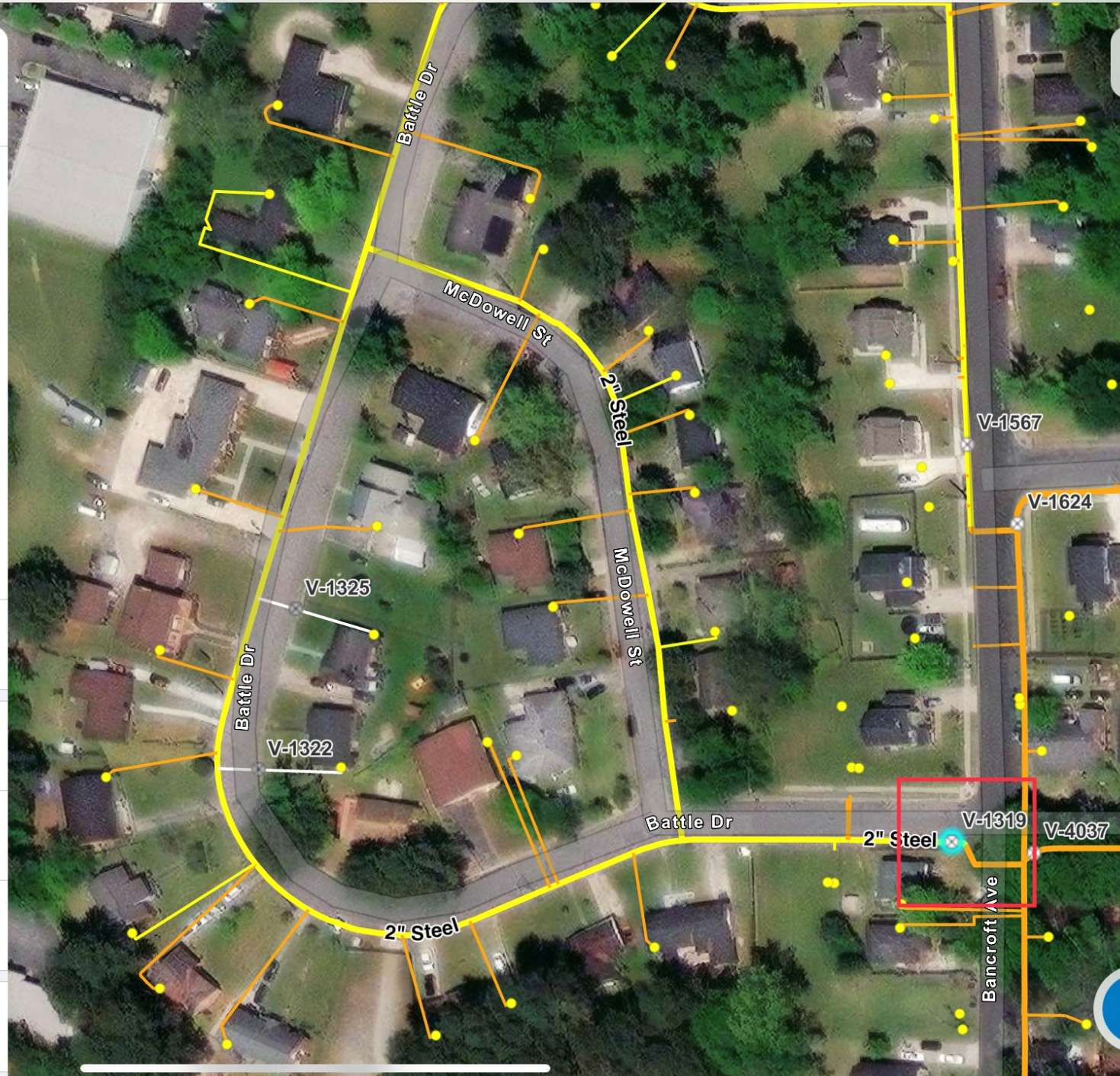
[View Inspection Table](#) 🔗

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GPS accuracy 114.8 ft · 30 ft required

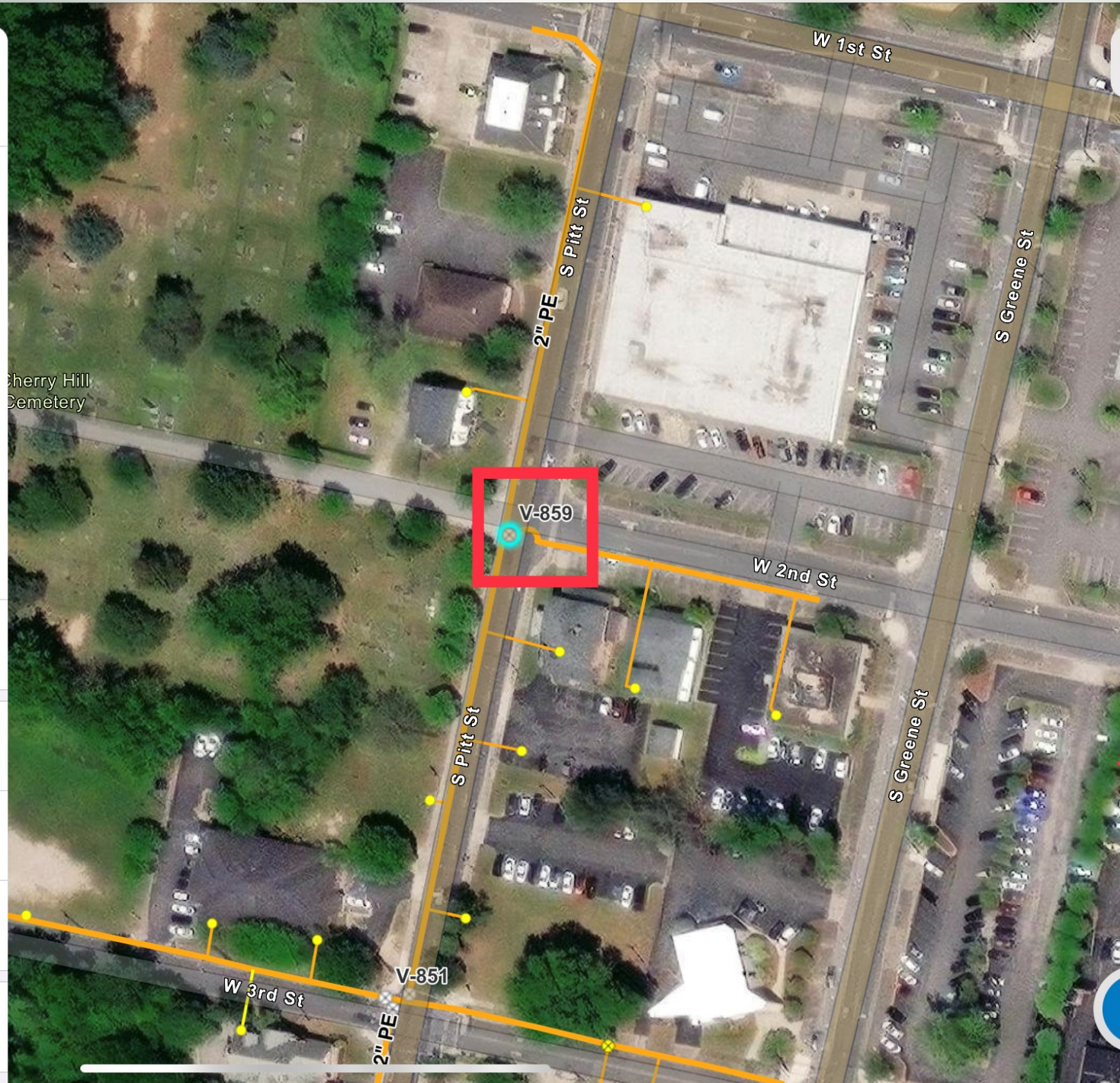
Distribution Valve # 859 ✕
 35.614764°N 77.375396°W 3.5 mi

Size: 2"
 Material: Plastic
 Type: Ball
 Trench Size: 0.000000
 Turns to Close: 0.000000
 Inspection Zone: 1

ATED

[View Inspection Table](#)

lect Here



GPS accuracy 114.8 ft · 30 ft required

Emergency Valve # 131 ✕
 35.611257°N 77.368313°W 4.0 mi

Size: 4"
 Material: Plastic
 Type: Ball
 Trench Size: 2.000000
 Turns to Close: 0.250000
 Inspection Zone: 2

LINKED

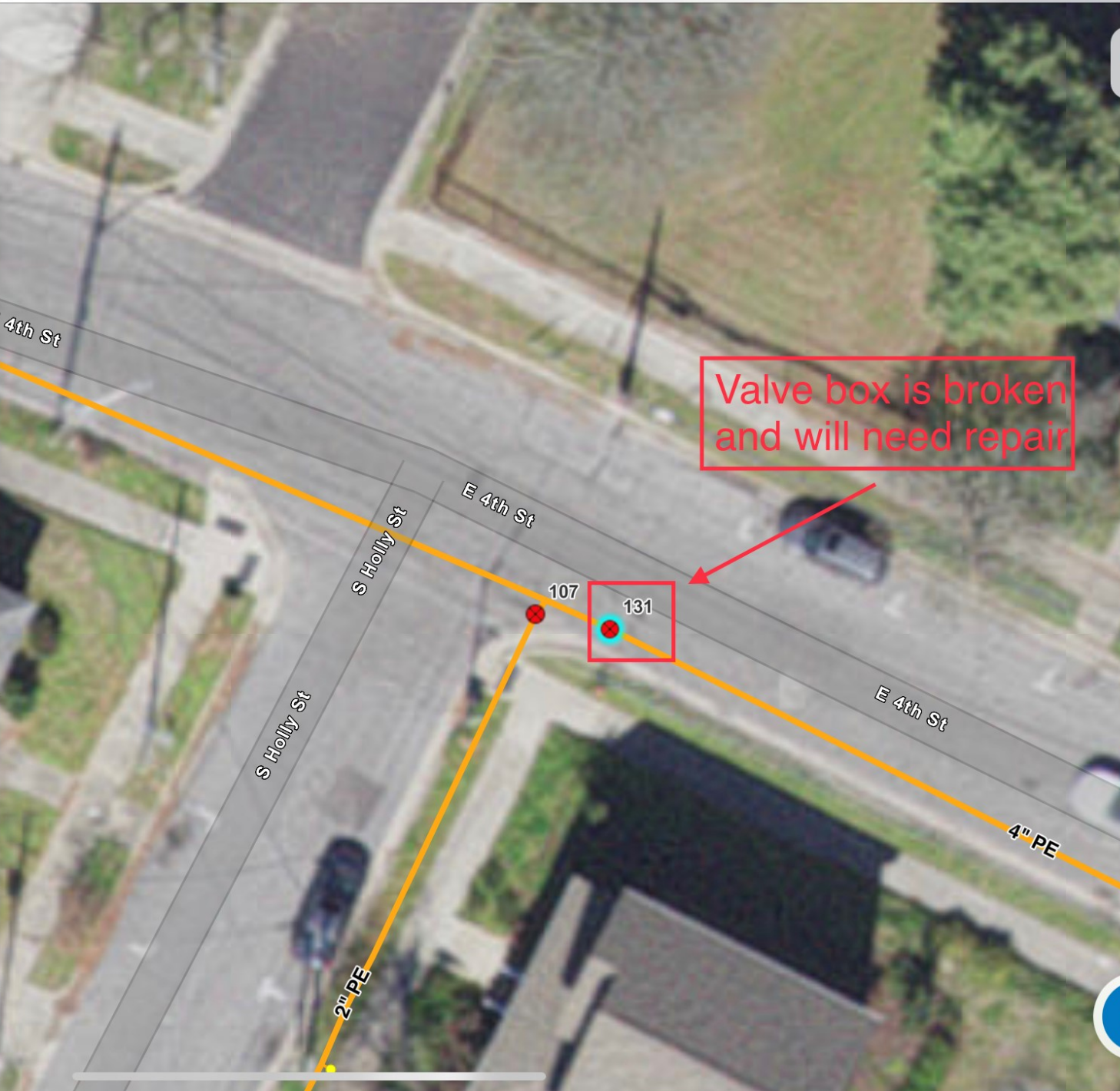
[View Inspection Table](#) 🔗

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Valve box is broken and will need repair

SPECIFICATIONS

Asphalt Rejuvenating Agent

Appendix E

STANDARD SPECIFICATIONS
FOR
ASPHALT SURFACE PRESERVATION
WITH A MALTENE BASED
ASPHALT REJUVENATING AGENT

2020 REC STD

ASPHALT REJUVENATING AGENT

I. Scope:

This work shall consist of furnishing all labor, material, and equipment necessary to perform all operations for the application of an asphalt rejuvenating agent to asphaltic concrete surface courses. The rejuvenation of surface courses shall be by spray application of a maltene based cationic rejuvenating agent composed of petroleum oils and resins emulsified with water. All work shall be in accordance with the specifications, the applicable drawings, and subject to the terms and conditions of this contract.

II. Material Specifications:

The asphalt rejuvenating agent shall be an emulsion composed of a petroleum resin oil base uniformly emulsified with water. Each bidder must submit with his bid a certified statement from the asphalt rejuvenator manufacturer showing that the asphalt rejuvenating emulsion conforms to the required physical and chemical requirements.

SPECIFICATIONS

| Tests | Test Method | | Requirements | |
|--|--------------|---------------|----------------|------|
| | ASTM | AASHTO | Min. | Max. |
| Tests on Emulsion: | | | | |
| Viscosity @ 25°C, SFS | D-244 | T-59 | 15 | 40 |
| Residue, % W ¹ | D-244 (Mod.) | T-59 (Mod) 60 | 65 | |
| Miscibility Test ² | D-244 (Mod.) | T-59 (Mod) | No Coagulation | |
| Sieve Test, %W ³ | D-244 (Mod.) | T-59 (Mod) | - | 0.1 |
| Particle Charge Test | D-244 | T-59 | Positive | |
| Percent Light Transmittance ⁴ | GB | GB | - | 30 |
| Tests on Residue from Distillation: | | | | |
| Flash Point, COC, °C | D-92 | T-48 | 196 | - |
| Viscosity @ 60°C, cSt | D-445 | - | 100 | 200 |
| Asphaltenes, %w | D-2006-70 | - | - | 1.00 |
| Maltene Dist. Ratio | D-2006-70 | - | 0.3 | 0.6 |
| $\frac{PC + A_1^5}{S + A_2}$ | | | | |
| PC/S Ratio ⁵ | D-2006-70 | - | 0.5 | - |
| Saturated Hydrocarbons, S ⁵ | D-2006-70 | - | 21 | 28 |

¹ ASTM D-244 Modified Evaporation Test for percent of residue is made by heating 50 gram sample to 149 C (300 F) until foaming ceases, then cool immediately and calculate results.

² Test procedure identical with ASTM D-244-60 except that .02 Normal Calcium Chloride solution shall be used in place of distilled water.

³ Test procedures identical with ASTM D-244-60 except that distilled water shall be used in place of two percent sodium oleate solution.

⁴ Test procedure is attached.

⁵ Chemical composition by ASTM Method D-2006-70:

PC = Polar Compounds, A₁ = First Acidaffins
 A₂ = Second Acidaffins, S = Saturated Hydrocarbons

**PROCEDURE FOR DETERMINING PERCENT LIGHT TRANSMITTANCE ON
 ASPHALT REJUVENATING AGENT**

A. SCOPE

This procedure covers the determination of percent light transmittance of the asphalt rejuvenating agent.

B. APPARATUS

- 1) Container may be either glass, plastic or metal having a capacity of 6,000 ml.
- 2) Graduated cylinder, 1,000 ml, or greater
- 3) Light transmittance measuring apparatus, such as Bausch and Lomb or Lumetron spectrophotometer
- 4) Graduated pipette having 1 ml capacity to 0.01 ml accuracy
- 5) Suction bulb for use with pipette
- 6) Test tubes compatible with spectrophotometer, 3/4" X 6, Bausch and Lomb, Catalog No. 33-17- 81, (B&L)

C. CALIBRATION OF SPECTROPHOTOMETER

- 1) Calibrate spectrophotometer as follows: (a) Set wavelength at 580 mu, (b) Allow spectrophotometer to warm-up thirty minutes, (c) Zero percent light transmittance (%LT) scale, (d) Rinse test tube three times with tap water and fill to top of circle marking on B&L test tube or approximately 2/3 full, (e) Place tube in spectrophotometer and set %LT scale at 100, and (f) repeat steps (c) and (e) two times or until no further adjustments are necessary.

D. PROCEDURE

- 1) Shake, stir or otherwise thoroughly mix emulsion to be tested. Place sample of emulsion in beaker and allow to stand one minute.
- 2) Place 2,000 ml tap water in container.
- 3) Suck 1.00 ml emulsion into pipette using suction bulb. Wipe off outside of pipette.
- 4) Using suction bulb, blow emulsion into container.
- 5) Rinse pipette by sucking in diluted emulsion solution and blowing out.
- 6) Clean pipette with soap or solvent and water. Rinse with acetone.
- 7) Stir diluted emulsion thoroughly.
- 8) Rinse out tube to be used with the diluted emulsion three times and fill to top of circle.
- 9) Calibrate spectrophotometer.
- 10) Place diluted emulsion sample tube in spectrophotometer, cover and read %LT to nearest tenth.
- 11) Repeat steps 9 and 10 until three identical consecutive readings are achieved.
- 12) The elapsed time between addition of emulsion to dilution of water and final %LT reading should not exceed 5 minutes.

III. Material Performance:

The asphalt rejuvenating agent shall have the capability to penetrate the asphalt pavement surface and performing as follows. The asphalt rejuvenating agent shall be absorbed and incorporated into the asphalt binder. Verification that said incorporation of the asphalt rejuvenating agent into the asphalt binder has been effected shall be by analysis of the chemical properties of said asphalt binder i.e. viscosity shall be reduced by petroleum maltene fraction replacement method to the following extent. For pavements receiving the first or original application of rejuvenating agent the viscosity shall be reduced by a minimum of thirty-five, (35%) percent as determined by dynamic shear rheometer (DSR) method for asphalt testing in accord with AASHTO T315-05. For retreated pavements after an initial treatment with the asphalt rejuvenator the viscosity shall be reduced by petroleum maltene replacement method a minimum of twenty percent (20%) as determined by dynamic shear rheometer (DSR) method for testing in accord with AASHTO T315-05. In addition the phase angle shall be increased. This analysis shall apply to extracted asphalt binder, taken from cores extracted fifteen to thirty days following application, in the upper three eights inch (3/8") of pavement. In addition the treated areas shall be sealed in-depth to the intrusion of air and water.

For use in the afore described testing untreated and treated core samples, a minimum of four inches in diameter, shall be removed by the Contractor at locations indicated by the Engineer. The treated core sample shall be taken in the same lane in close proximity to each untreated sample. When directed by the Engineer, a minimum of one untreated and treated core for each test method shall be taken for each pavement type group or one per 30,000 square yards of treated pavement in each pavement type group.

The rejuvenating agent shall have a record of at least five years of satisfactory service as a petroleum maltene based emulsion asphalt rejuvenating agent and in-depth sealer. Satisfactory service shall be based on the capability of the material to decrease the viscosity of the asphalt binder by petroleum maltene fraction replacement method, increase the phase angle and provide an in-depth seal. Reclamite®, a Tricor Refiners, LLC product manufactured by D&D Emulsion, Inc., Mansfield, Ohio, is a product of know quality and accepted performance.

The bidder must submit with his bid the manufacturer's certification that the material proposed for use is in compliance with the specification requirements. The bidder must submit with his bid previous use documentation and test data conclusively demonstrating that; the rejuvenating agent has been used successfully for a period of five years by government agencies such as Cities, Counties, etc; and that the asphalt rejuvenating agent has been proven to perform, as heretofore required, through field testing by government agencies as to the required change in asphalt binder viscosity and phase angle. Prior testing data shall be submitted indicating such product performance on a sufficient number of projects to insure product consistency. In addition, prior testing data shall be submitted to indicate said product performance as heretofore described over a minimum testing period of three years to insure reasonable sustainability.

RECLAMITE®, a product of Tricor Refining, LLC is a product of known quality and accepted performance.

IV. Applicator Experience:

The asphalt-rejuvenating agent shall be applied by an experienced applicator of such material. The bidder shall have a minimum of three years experience in applying the product proposed for use. He must submit with his bid a list of five projects on which he applied said rejuvenator. He shall indicate the project dates, number of square yards treated in each and the name and phone number of the government official in charge of each project.

A project superintendent knowledgeable and experienced in application of the asphalt-rejuvenating agent must be in control of each day's work. The bidder shall submit a written experience outline of the project superintendent.

V. PRODUCT STANDARDS AND ALTERNATES:

The product "Reclamite"® for the asphalt rejuvenating agent, a Tricor Refiners LLC product manufactured by D & D emulsions, Inc. Mansfield, Ohio is the standard for these specifications and the prices quoted on the Bid Sheet Base Bid shall be for this standard. Should a bidder wish to submit a bid for alternates to the Standard, said prices shall be entered on the BID SHEET as the "Alternate Bid" for each item. In the event that the bidder submits no bid for the Standard, only the "Alternate Bids" should be completed.

Bidders may offer an ALTERNATE for the Standard specified in the Specifications provided the bidder adheres to the following and submits same with his bid.

(a) List the proposed alternate on the BID SHEET form giving the product name and price.

(b) Furnish complete specifications and descriptive literature for the alternate as well as a one-gallon sample of the material proposed for use. Such descriptive and detailed information shall be complete and at least equal in detail to the agencies requirements for the standard item for which the alternate is offered.

(c) Submit a current Safety Data Sheet for the alternate materials. The agency will give the alternate consideration. The Contractor may furnish only those alternate items included in his proposal and approved by the agency prior to award of a contract.

(d) Furnish all required test data and use documentation as heretofore required.

If no ALTERNATE is indicated on the BID SHEET, the Contractor shall furnish the STANDARD (brand) specified in the attached specifications.

Should the ALTERNATE offered be found unacceptable by the agency based on the data submitted with the bid and no bid is entered on the BID SHEET for the Standard, then said bid will be considered non-responsive.

VI. APPLICATION TEMPERATURE/WEATHER LIMITATIONS:

The temperature of the asphalt rejuvenating emulsion, at the time of application shall be as recommended by the manufacturer. The asphalt-rejuvenating agent shall be applied only when the existing surface to be treated is thoroughly dry and when it is not threatening to rain. The asphalt-rejuvenating agent shall not be applied when the ambient temperature is below 40° F.

VII. HANDLING OF ASPHALT REJUVENATING AGENT:

Contents in tank cars or storage tanks shall be circulated at least forty-five minutes before withdrawing any material for application. When loading the distributor, the asphalt rejuvenating agent concentrate shall be loaded first and then the required amount of water shall be added. The water shall be added into the distributor with enough force to cause agitation and thorough mixing of the two materials. To prevent

foaming, the discharge end of the water hose or pipe shall be kept below the surface of the material in the distributor that shall be used as a spreader. The distributor truck will be cleaned of all of its asphalt materials, and washed out to the extent that no discoloration of the emulsion may be perceptible. Cleanliness of the spreading equipment shall be subject to the approval and satisfaction of the Engineer.

VIII. RESIDENT NOTIFICATION:

The contractor shall distribute by hand, a typed notice to all residences and businesses on the street to be treated. The notice will be delivered no more than 24 hours prior to the treatment of the road. The notice will have a local phone number that residents may call to ask questions. The notice shall be of the door hanger type that secures to the door handle of each dwelling. Unsecured notices will not be allowed. The contractor shall also place the notice on the windshield of any parked cars on the street. Hand distribution of this notice will be considered incidental to the contract.

IX. APPLICATING EQUIPMENT:

The distributor for spreading the emulsion shall be self-propelled, and shall have pneumatic tires. The distributor shall be designed and equipped to distribute the asphalt rejuvenating agent uniformly on variable widths of surface at readily determined and controlled rates from 0.04 to 0.08 gallons per square yard of surface, and with an allowable variation from any specified rate not to exceed 5 percent of the specified rate.

Distributor equipment shall include full circulation spray bars, pump tachometer, volume measuring device and a hand hose attachment suitable for application of the emulsion manually to cover areas inaccessible to the distributor. The distributor shall be equipped to circulate and agitate the emulsion within the tank. The distributor shall have a computerized system, acceptable to the Engineer that controls the rate of product application.

A check of distributor equipment as well as application rate accuracy and uniformity of distribution shall be made when directed by the Engineer.

The truck used for applying rock dust, or other aggregate when required and approved by the Engineer, shall be equipped with a spreader that allows the rock dust to be uniformly distributed onto the pavement. The spreader shall be able to apply 1/2 pound to 3 pounds of rock dust or other aggregate per square yard in a single pass. The spreader shall be adjustable so as not to broadcast the rock dust or other aggregate onto driveways or tree lawns.

The rock dust or other aggregate to be used shall be free flowing, without any leaves, dirt, stones, etc. Any wet rock dust shall be rejected from the job site.

Any equipment that is not maintained in full working order, or is proven inadequate to obtain the results prescribed, shall be repaired or replaced at the direction of the Engineer.

X. APPLICATION OF REJUVENATING AGENT:

The asphalt-rejuvenating agent shall be applied by a distributor truck at the temperature recommended by the manufacturer and at the pressure required for the proper distribution. The emulsion shall be so applied that uniform distribution is obtained at all points of the areas to be treated. Distribution shall be commenced with a running start to insure full rate of spread over the entire area to be treated. Areas inadvertently missed shall receive additional treatment as may be required by hand sprayer application.

Application of asphalt rejuvenating agent shall be on one-half width of the pavement at a time. When the second half of the surface is treated, the distributor nozzle

nearest the center of the road shall overlap the previous application by at least one-half the width of the nozzle spray. In any event the centerline construction joint area of the pavement shall be treated in both application passes of the distributor truck.

Before spreading, the asphalt rejuvenating agent shall be blended with water at the rate of two (2) parts rejuvenating agent to one (1) part water, by volume or as specified by the manufacturer for jobsite conditions. The combined mixture of asphalt rejuvenating agent and water shall be spread at the rate of 0.04 to 0.08 gallons per square yard, or as approved by the Engineer following field testing.

Where more than one application is to be made, succeeding applications shall be made as soon as penetration of the preceding application has been completed and the Engineer grants approval for additional applications.

Grades or super elevations of surfaces that may cause excessive runoff, in the opinion of the Engineer, shall have the required amounts applied in two or more applications as directed.

After the rejuvenating emulsion has penetrate and when surface conditions require a light coating of dry rock dust, or other aggregate approved by the Engineer, shall be applied to the surface in sufficient amount to protect the traveling public as required by the Engineer. The rock dust or other approved aggregate shall be swept and removed from the streets and properly disposed of at the Contractor's expense within 24 hours of application.

The Contractor shall furnish a quality inspection report showing the source, manufacturer, and the date shipped, for each load of asphalt rejuvenating agent. When directed by the Engineer, the Contractor shall take representative samples of material for testing.

XI. STREET SWEEPING:

The Contractor shall be responsible for sweeping and cleaning of the streets prior to, and after treatment.

Prior to treatment, the street will be cleaned of all standing water, dirt, leaves, foreign materials, etc. This work shall be accomplished by hand brooming, power blowing or other approved methods. If in the opinion of the Engineer the hand cleaning is not sufficient than a self-propelled street sweeper shall be used.

All rock dust or other approved material used during the treatment must be removed no later than 24 hours after treatment of the street. This shall be accomplished by a combination of hand and mechanical sweeping. All turnouts, cul-de-sacs, etc. must be cleaned of any material to the satisfaction of the Engineer. Street sweeping will be included in the price bid per square yard for asphalt rejuvenating agent.

If, in the opinion of the Engineer, additional rock dust is required said material shall be applied by the contractor. Said rock dust shall be swept up no later than 24 hours following reapplication. No additional compensation will be allowed for reapplication and removal of rock dust.

XII. TRAFFIC CONTROL:

The Contractor shall schedule his operations and carry out the work in a manner to cause the least disturbance and/or interference with the normal flow of traffic over the areas to be treated. Treated portions of the pavement surfaces shall be kept closed and free from traffic until penetration, in the opinion of the Engineer, has become complete and the area is suitable for traffic.

When, in the opinion of the Engineer, traffic must be maintained at all times on a

particular street, then the Contractor shall apply asphalt rejuvenating agent to one lane at a time. Traffic shall be maintained in the untreated lane until the traffic may be switched to the completed lane.

The Contractor shall be responsible for all traffic control and signing required to permit safe travel. The contractor shall notify the police and fire departments as to the streets that are to be treated each day.

If, in the opinion of the Engineer, proper signing is not being used, the Contractor shall stop all operations until safe signing and barricading is achieved.

XIII. METHOD OF MEASUREMENT:

Asphalt rejuvenating agent shall be paid at the Contract bid unit price and for the actual square yards of pavement treated as field measured. Said payment shall be and is compensation in full for all costs of furnishing and applying the material as specified, including cleaning the existing pavement, stationing, purchase of aggregate, delivery of aggregate, all labor, equipment and materials necessary for the placement of the asphalt rejuvenating agent, sweeping of any loose material after construction and other requirements as specified. Traffic control for maintaining traffic for constructing asphalt rejuvenating agent shall be considered incidental to the work unless specified elsewhere in the plans or proposal.

Payment for removal of untreated and treated cores when directed by the Engineer, shall be paid for as each at the unit price bid for Test Core Removal.

Payment for laboratory analysis of untreated and or treated test cores, when directed by the Engineer shall be paid for as each at the unit price bid for Test Core Laboratory Analysis.

XIV. BASIS OF PAYMENT:

Standard Bid:

| | |
|---|-------------|
| Asphalt Rejuvenating Agent | Square Yard |
| Test Core Removal (When Required) | Each |
| Test Core Laboratory Analysis - Viscosity (When Required) | Each |

Alternate Bid:

| | |
|---|-------------|
| Asphalt Rejuvenating Agent | Square Yard |
| Test Core Removal (When Required) | Each |
| Test Core Laboratory Analysis - Viscosity (When Required) | Each |

SPECIFICATIONS

For

Cape Seal

Appendix F

Note: *The Chip Seal used prior to the micro should be a 1 course chip seal using 78m stone. Only 1 course is necessary for the Cities application. Then micro surface to following the single course chip seal.*

MICROSURFACING:

(7-1-95) (Rev. 7-18-23)

SPI 6-18

Description

This provision covers the materials, equipment, construction and application procedures for rut filling and/or surfacing of existing paved surfaces in accordance with the contract. The microsurfacing system shall be a mixture of cationic latex modified asphalt emulsion, mineral aggregate, mineral filler, water and other additives, properly proportioned, mixed and spread on the paved surface in accordance with this provision and as directed by the Engineer.

Materials

(A) Latex Modified Emulsified Asphalt

The emulsified asphalt shall be a cationic type CQS-1hLM and shall conform to AASHTO M 208 or ASTM D2397. In general, 3% polymer solids, based on asphalt weight, is considered minimum. The ring and ball softening point of the residue shall be a minimum of 135°F. It shall show no separation after mixing. The cement mixing test is waived for the latex modified CQS-1hLM.

(B) Mineral Aggregate

The mineral aggregate used shall be compatible with the latex modified emulsified asphalt and can produce a good skid resistant surface. The aggregate shall meet requirements in Article 1012-1 of the *Standard Specifications*.

(C) Mineral Filler

Mineral filler shall be any recognized brand of non-air entrained Portland cement that is free of lumps or hydrated lime meeting the requirements of ASTM D242. It may be accepted upon visual inspection.

(D) Water

The water shall be potable and shall be free of harmful soluble salts in accordance with Article 1024-4 of the *Standard Specifications*.

(E) Latex Modifier

A latex based modifier, certified from an approved source, along with special emulsifiers shall be milled into the asphalt emulsion by an approved emulsion manufacturer. The latex modified emulsified asphalt shall be so formulated that when the paving mixture is applied at a thickness of one inch it will cure sufficiently so that rolling traffic can be allowed back on the pavement in one hour with no damage to the surface.

(F) Other Additives

The additives are any other materials that are added to the emulsion mix or to any of the component materials to provide the specified properties. The additives shall be supplied by the emulsion manufacturer to provide control of the set time in the field.

Mix Design

The Contractor is required to design the asphalt mix and to obtain an approved Job Mix Formula (JMF) issued by the Department. A mix design and proposed JMF targets for each required mix type and combination of aggregates must be submitted in electronic format to the Materials and Tests Unit for review and approval at least 10 days prior to start of asphalt mix production. The mix design shall conform to the International Slurry Surfacing Association's ISSA A143, Section 5.2.

Compatibility of the aggregate test results and a certificate of analysis (COA) for the latex modified CQS-1hlm shall be submitted with the mix design.

Aggregate used in the job mix formula shall be of the material proposed by the Contractor for use on the project.

The gradation of the aggregate shall be in accordance with the following:

| Screen Size | Type II (% passing) | Type III (% passing) | Stockpile Tolerance |
|-------------|---------------------|----------------------|---------------------|
| 3/8" | 100 | 100 | |
| #4 | 90 - 100 | 70 - 90 | ± 5 |
| #8 | 65 - 90 | 45 - 70 | ± 5 |
| #16 | 45 - 70 | 28 - 50 | ± 5 |
| #30 | 30 - 50 | 19 - 34 | ± 5 |
| #50 | 18 - 30 | 12 - 25 | ± 4 |
| #100 | 10 - 21 | 7 - 18 | ± 3 |
| #200 | 5 - 15 | 5 - 15 | ± 2 |

The gradation of the aggregate stockpile shall not vary by more than the stockpile tolerance from the mix design gradation (indicated in the table above) while also remaining within the specification gradation band. The percentage of aggregate passing any 2 successive sieves shall not change from one end of the specified range to the other end. (The #200 sieve material shall not vary by more than ± 2 of the JMF value.)

The aggregate will be accepted at the job location or stockpile based on 5 gradation tests sampled according to AASHTO T 2. If the average of the 5 tests is within the stockpile tolerance from the mix design gradation, the material will be accepted. If the average of those test results is out of specification or tolerance, the Contractor will be given the choice to either remove the material or blend additional aggregate with the stockpile material to bring it into compliance. Materials used in blending shall meet the required aggregate quality test specifications in Section 1012 of the

Standard Specifications before blending and shall be blended in a manner to produce a consistent gradation.

Aggregate blending may require a new mix design. Screening shall be required at the stockpile if there are any problems created by oversized materials in the mix.

Type II aggregate gradation is used to fill surface voids, address surface distresses, seal and provide a durable wearing surface.

Type III aggregate gradation provides maximum skid resistance and an improved wearing surface. This type of microsurfacing is appropriate for heavily traveled pavements or for placement on highly textured surfaces requiring larger size aggregate to fill voids. Type III microsurfacing shall be used for rut filling, and as a leveling course as part of a two lift or Double Course Micro Surfacing application./

The mineral aggregate shall be weighed by means of scale approved by the Engineer before delivery to the job site. Emulsified asphalt shall be weighed by means of approved scales or be measured by volume.

Precautions shall be taken to ensure that stockpiles do not become contaminated.

Samples for gradation will be taken from aggregate stockpiles designated by the Contractor for use. Samples for asphalt content shall be taken from the completed mix. Samples of aggregate and filler will be taken at the job site. The frequency of sampling and testing will be established by the Engineer based upon the Department's current acceptance program. The asphalt content will be determined by AASHTO T 308 modified.

Equipment

Use equipment that meets ISSA A143 Section 6.

Each mixing unit to be used in performance of the work shall be calibrated in the presence of the Engineer before beginning the work. Submit calibration documentation to the Engineer. Any equipment replacement affecting material proportioning requires that the machine be recalibrated. No machine will be allowed to work on the project until the calibration has been accepted.

Construction Methods

(A) Weather

The material shall be placed only when the surface is dry and the atmospheric and surface temperature is at least 50°F and rising and there is no chance of temperatures below 32°F within 24 hours from the time the material is applied. The material should not be placed when the atmospheric temperature is 50°F and falling or if rain is imminent. Clouds, fog, excessive humidity or shady conditions can slow break time of the mixture.

(B) Surface Preparation

Immediately prior to applying the paving mixture the surface shall be thoroughly cleaned of all vegetation, loose materials, dirt, mud, and other deleterious materials. If water is used, cracks shall be allowed to dry thoroughly before applying microsurfacing. Manholes, valve boxes, drop inlets and other service entrances shall be protected from the microsurfacing by a suitable method. Remove all pavement marking lines, symbols, and characters unless otherwise approved by the Engineer prior to microsurfacing in accordance with Subarticle 1205-3(I) of the *Standard Specifications*.

(C) Tack Coat for Microsurfacing

The tack coat used should conform to the manufacturer's recommendation for the microsurfacing product being applied. Tack coat shall be applied according to Section 605 of the *Standard Specifications*. The emulsified asphalt used for tack coat shall be CSS, CQS, CRS or the microsurfacing emulsion diluted to one part emulsified asphalt to 2 or 3 parts water, as approved by the Engineer. Consult with the microsurfacing emulsion supplier to determine dilution stability. The distributor shall be capable of applying the diluted tack coat evenly at a rate of 0.08 to 0.15 gallons per square yard as required by the Engineer. The tack coat shall be allowed to cure sufficiently before the application of microsurfacing.

(D) Application

When rutting or deformation is less than 0.5 inch, a full width scratch course may be applied with the spreader box using a metal or stiff rubber strike-off. Apply at a sufficient rate to level the pavement surface. The mixture shall be spread to fill minor cracks, minor surface irregularities, and shallow potholes and leave a uniform high-skid resistant application of aggregate and asphalt on the surface. Approved squeegees shall be used to spread the mixture in areas inaccessible to the spreader box and other areas hand spreading may be required. Ruts that are greater than 0.5-inch depth shall be filled independently by means of a box specifically designed for that purpose. The box shall be 5 to 6 feet in width and have a dual chamber with an inner "V" configuration of augers to channel the large aggregate to the center of the rut and the fines to the edges of the rut fill pass. The box shall be equipped with dual steel strike-off to control both the width and depth of the rut fill. All rut-filling and leveling material should cure under traffic for at least 24 hours before additional material is placed.

A sufficient amount of surface sealer shall be carried to all parts of the spreader box at all times so that complete coverage is obtained. Water in very limited quantity may be sprayed into the spreader box to prevent build-up on the blades to facilitate spreading without harming the mix. No lumping, balling, or unmixed aggregate shall be permitted in the finished surface. Any oversized aggregate or foreign materials shall be screened from the aggregate prior to delivery to the mixing machine. Microsurfacing for the final surface course shall be placed at a total application rate of 18 to 22 pounds per square yard for Type II and 22 to 26 pounds per square yard for Type III.

When a Leveling and Surface Course are both specified as a Double Course Micro Surfacing, apply the Leveling Course at a minimum of 18-20 pounds per square yard of Type III dry aggregate weight and the Surface Course at a minimum of 16-18 pounds per square yard of Type II dry aggregate weight. Apply the two courses at a minimum combined rate of 34 pounds per square yard of dry aggregate weight.

In restricted areas where hand spreading is necessary, slight adjustments to the mix formula may be required to slow setting time. The paving mixture shall be poured into a small windrow along one edge of the surface to be covered. The mixture then shall be spread uniformly by a hand squeegee or lute.

The seam where two passes join shall be neat in appearance and uniform.

All excess material shall be removed from ends of each run immediately on surface course.

(E) Curing

Breaking should occur within 5-10 minutes. Curing of microsurfacing placed at 0.5 inches thick should generally be allowed to take place without traffic interruption for 30 – 90 minutes. The Contractor shall determine the appropriate curing time of the microsurfacing before it is opened up to traffic. Adequate means shall be provided to protect the microsurfacing from damage by traffic until the mixture has cured sufficiently so that it will not adhere to or be picked up by the tire of vehicles. Adjust mixture properties according to humidity and temperature conditions if curing is not occurring within 90 minutes. Stopping and starting traffic may require additional curing time. All rut-filling and level-up material and first lift in two lift areas should cure under traffic for at least 24 hours before additional material is placed. During the curing time, the temperature cannot drop below 32°F. If temperatures drop below 32°F, this time does not count towards the curing requirements.

Any damage done by traffic to the microsurfacing shall be repaired by the Contractor.

(F) Test Strip

A test strip shall be placed with job site materials and approved by the Engineer. The test strip shall be a minimum of 500 feet and constructed at the beginning of the first day of production and after, as directed by the Engineer. The weather and time of day, day or night, during the test strip shall be similar to expected conditions during construction. Upon completion of the test strip the Engineer will approve the mixture for proper curing and placement.

Workmanship

Immediately take corrective action if microsurfacing material is exhibiting evidence of poor workmanship, delayed opening to traffic, or surface irregularities, including excessive scratch marks, drag marks, tears, streaks, raveling, delamination and segregation. After

immediately contacting the Pavement Preservation Engineer in the Materials and Tests Unit, the Engineer may allow placement to continue for no more than 1 day of production while the Contractor takes corrective action and/or takes corrective action as directed by the Engineer. If workmanship issues persist after the 1-day period, the Engineer will suspend paving until corrective action is taken to the satisfaction of the Engineer.

(A) Finished Surface

Provide a finished surface with a uniform texture free from excessive scratch marks, tears, or other surface irregularities. Marks, tears, or irregularities are considered excessive if:

- (1) More than 1 irregularity is at least 1/4 inch wide and at least 10 feet long in any 100 foot pull
- (2) More than 3 irregularities are at least 1/2 inch wide and more than 6 feet long in any 100 foot pull
- (3) Any are 1 inch wide or wider and more than 4 inch in length

(B) Construction Joints

Place mixture so that longitudinal joints on the surface course coincide with lane lines, or as directed by the Engineer. Provide longitudinal and transverse joints that are uniform and neat in appearance. Provide construction joints that have limited buildup and no gaps between applications. Joints with buildup will be considered acceptable if:

- (1) No more than 1/2 inch vertical space exists between the pavement surface and a 4 foot straightedge placed perpendicular to the longitudinal joint and
- (2) No more than 1/4 inch vertical space exists between the pavement surface and a 4 foot straightedge placed perpendicular to the transverse joint.

(C) Edges

Provide an edge along the roadway centerline, lane lines, shoulder, edge of pavement, or curb line that is uniform and neat in appearance. The edge is considered acceptable when:

- (1) It varies no more than 3 inches from a 100 foot straight line on a tangent section and
- (2) It varies no more than 3 inches from a 100 foot arc on a curved section.

(D) Miscellaneous Areas

Use a single-batch-type-lay-down machine or approved method to place materials on ramps or other short sections. Apply tack coat uniformly at the rate as shown in the contract, unless otherwise directed by the Engineer. Provide uniform coverage of appearance and comparable to that produced by the spreader box.

Measurement and Payment

- (A) *Latex Modified Microsurfacing Type* ___ will be measured along the top surface of the completed work, placed and accepted as specified herein. Payment will be made at the

contract unit price per square yard for the type specified, which price will be full compensation for all materials including modifiers and additives, emulsion, aggregate, tack coat, labor, tools, equipment, and all other incidentals necessary to complete the work.

Removal of Pavement Marking Lines, ___” and Removal of Pavement Marking Symbols & Characters will be measured and paid for in accordance with Article 1205-10.

(B) When rut filling and leveling course are needed, measurement and payment is as follows.

Latex Modified Emulsion will be measured and paid at the contract unit price per gallon, which price will be full compensation for all materials including modifiers and additives, tack coat, labor, tools, equipment, and all other incidentals necessary to complete the work.

Aggregate, Type III will be measured and paid at the contract unit price per ton which price will be full compensation for all material, including mineral filler, labor, tools, equipment, and maintenance of traffic and all incidentals necessary to complete the work.

Removal of Pavement Marking Lines, ___” and Removal of Pavement Marking Symbols & Characters will be measured and paid for in accordance with Article 1205-10.

Microsurfacing will be measured and paid by either (A) or (B) as described herein.

Payment will be made under:

Pay Item

Latex Modified Microsurfacing Type ___
Latex Modified Emulsion
Aggregate, Type III

Pay Unit

Square Yard
Gallon
Ton

Pay Item

Latex Modified Micro Surfacing Type II

Latex Modified Micro Surfacing Type III

Latex Modified Emulsion for Rut Filling

Aggregate Type III for Rut Filling

Removal of Pavement Marking Lines, Symbols & Characters

Pay Unit

Square Yard

Square Yard

Gallon

Ton

Lump Sum

Section 660

1 Heat and apply the sealant material according to the manufacturer’s recommendations. Use
2 a portable melting kettle for heating the material that is equipped with indirect heating
3 (air-jacketed flow) and is capable of constantly agitating the joint sealer to maintain a uniform
4 temperature. Equip the kettle with either mechanically operated paddles and/or a continuous
5 circulating pump to maintain agitation. Use heating equipment capable of controlling the
6 sealant material temperature within the manufacturer’s recommended temperature range and
7 that is thermostatically-control calibrated between 200°F to 600°F. Locate a thermometer on
8 the kettle so the Engineer can safely check the temperature of the sealant material.
9 Overheating of the sealant material will not be permitted.

10 Apply sealant in the prepared cracks and joints within the manufacturer’s recommended
11 temperature range, using a pressure screed shoe to completely fill the crack or joint, leaving
12 a sealed 2" overband. Excessive overbanding or waste of sealant materials will not be
13 tolerated. Immediately squeegee the crack seal material to minimize the height of the
14 overband. All sealed cracks and joints shall have a minimum of 1/8" depth of sealant
15 installed.

16 Do not apply the hot applied joint sealer when the surface temperature of the pavement is
17 below 32°F. Follow manufacturer’s recommendations.

18 After the crack or joint has been sealed, promptly remove any surplus sealer on the pavement.
19 Do not permit traffic over the sealed cracks and joints without approval by the Engineer.
20 When approved by the Engineer, place sand or other approved material over the crack or joint
21 to prevent tracking.

22 **657-4 MEASUREMENT AND PAYMENT**

23 Sealing existing pavement cracks and joints will be measured and paid as the actual number
24 of pounds of material that has satisfactorily been used to seal pavement cracks and joints in
25 the designated highway. Any material spilled, used in excessive overbanding, wasted,
26 misapplied or unsatisfactorily used in any way will be deducted in determining quantities for
27 payment. The Engineer will determine the quantity, if any, to be deducted. The Engineer's
28 decision on the quantity to be deducted will be final and binding.

29 Payment will be made under:

| Pay Item | Pay Unit |
|---|-----------------|
| Sealing Existing Pavement Cracks and Joints | Pound |

30 **SECTION 660**
31 **ASPHALT SURFACE TREATMENT**

32 **660-1 DESCRIPTION**

33 Perform the work covered by this section including, but not limited to, furnishing, hauling,
34 spreading and rolling the asphalt material and aggregate consisting of one or more
35 applications of liquid asphalt material and one or more applications of aggregate cover coat
36 material on a prepared surface; furnishing and spreading blotting sand; and maintaining and
37 repairing the asphalt surface treatment.

38 **660-2 MATERIALS**

39 Refer to Division 10.

40 Use one of the following grades of asphalt:

| Item | Section |
|--|----------------|
| Aggregates for Asphalt Surface Treatment | 1012-2 |
| Blotting Sand | 1012-3 |
| Emulsified Asphalt, Grade CRS-2 | 1020-3 |
| Emulsified Asphalt, Grade CRS-2L | 1020-3 |

| Item | Section |
|----------------------------------|-----------|
| Emulsified Asphalt, Grade CRS-2P | 1020-3 |
| Emulsified Asphalt, Grade CSS-1H | 1020-3 |
| Fine Aggregate | 1014 |
| Mineral Filler | 1012-1(D) |
| Water | 1024-4 |

1 Before any asphalt surface treatment is placed, obtain from the asphalt supplier and furnish to
 2 the Engineer a certification of compatibility of the asphalt with the aggregate proposed for
 3 use.

4 **660-3 WEATHER AND SEASONAL LIMITATIONS**

5 Do not place any asphalt surface treatment between October 15 and March 16, except for
 6 asphalt surface treatment that is to be overlaid immediately with asphalt plant mix.

7 Apply asphalt material only when the surface to be treated is dry and when the atmospheric
 8 temperature is above 50°F in the shade away from artificial heat.

9 When placing asphalt surface treatment that is to be immediately overlaid with asphalt plant
 10 mix, the seasonal and temperature limitations of Article 610-4 shall apply.

11 Do not apply asphalt material when the weather is foggy or rainy.

12 **660-4 SURFACE PREPARATION**

13 Clean the surface to be treated of all dust, dirt, clay, grass, sod and any other deleterious
 14 matter before application of the asphalt surface treatment.

15 **660-5 ACCEPTANCE OF ASPHALT MATERIALS**

16 The acceptance of asphalt materials will be in accordance with Section 1020-1.

17 **660-6 APPLICATION EQUIPMENT**

18 Use asphalt application equipment that meets Article 600-5.

19 Apply aggregate by the use of a self-propelled, pneumatic-tire aggregate spreader capable of
 20 maintaining a specified rate with a uniform application for the width of asphalt material being
 21 covered. Tailgate spreaders will not be permitted. Areas that are inaccessible to the
 22 aggregate spreader may be covered by hand spreading or other acceptable methods.

23 **660-7 APPLICATION OF ASPHALT MATERIALS**

24 The grades, rates of application and the temperature that the asphalt material is to be applied
 25 shall be within the limits shown in Table 660-1.

26 Base the required rates of application on the volume of material at the application
 27 temperature.

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**TABLE 660-1
MATERIAL APPLICATION RATES AND TEMPERATURES**

| Type of Coat | Grade of Asphalt | Asphalt Rate Gal/SY Total | Application Temp. °F | Aggregate Size | Aggregate Rate Lb/SY Total |
|---------------|------------------|---------------------------|----------------------|------------------------|----------------------------|
| Mat | CRS-2 or CRS-2P | 0.35 - 0.45 | 150 - 175 | No. 6M ^{A,C} | 30 - 35 |
| | CRS-2 or CRS-2P | 0.30 - 0.35 | 150 - 175 | No. 67 | 35 - 45 |
| | CRS-2 or CRS-2P | 0.45 - 0.50 | 150 - 175 | No. 5 ^{B,C} | 45 - 50 |
| | CRS-2 or CRS-2P | 0.30 - 0.40 | 150 - 175 | No. 78M ^{A,C} | 15 - 20 |
| Straight Seal | CRS-2 or CRS-2P | 0.35 - 0.40 | 150 - 175 | No. 78M | 16 - 22 |
| | CRS-2 or CRS-2P | 0.35 - 0.40 | 150 - 175 | Lightweight | 9 - 12 |
| Split Seal | CRS-2 or CRS-2P | 0.5 - 0.60 | 150 - 175 | No. 78M | 30 - 35 |
| | CRS-2 or CRS-2P | 0.45 - 0.60 | 150 - 175 | Lightweight | 18 - 20 |
| Triple Seal | CRS-2 or CRS-2P | 0.60 - 0.75 | 150 - 175 | No. 78M | 45 - 51 |
| | CRS-2 or CRS-2P | 0.60 - 0.75 | 150 - 175 | Lightweight | 27 - 29 |
| Sand Seal | CRS-2 or CRS-2P | 0.22 - 0.30 | 150 - 175 | Blotting Sand | 12 - 15 |

1 **A.** Use No. 6M or No. 78M aggregate for retreatment before an overlay on existing
2 pavement.

3 **B.** Use No. 5 aggregate for initial treatment on new construction.

4 **C.** Article 660-9 includes more details regarding variations of the types of coats.

5 **660-8 APPLICATION OF AGGREGATES**

6 The size of the aggregate shall be as shown in Table 660-1 for the mat coat or the type of seal
7 coat to be constructed. The rate of application for mat and seal aggregates shall be within the
8 limits shown in Table 660-1. When directed, weigh a sufficient number of truck loads of
9 aggregate before spreading to verify that the rate of application is within the required limits
10 and use ASTM D5624 to determine rate of application.

11 **660-9 CONSTRUCTION METHODS**

12 **(A) Asphalt Mat Coat**

13 The surface on which the mat coat is to be applied shall be approved by the Engineer
14 before the mat coat liquid asphalt is applied.

15 Place a string line guide for application equipment unless otherwise permitted. Place the
16 mat coat in full-lane widths, unless otherwise permitted.

17 Immediately follow the application of mat liquid asphalt with the spreading of the
18 aggregate. No more than 5 minutes can elapse from the time the liquid asphalt is applied
19 and the rolling is completed when using CRS-2. No more than 4 minutes can elapse from
20 the time the liquid asphalt is applied and the rolling is completed when using CRS-2P or
21 CRS-2L.

22 Test mat coat aggregate, have approved and drained of free moisture before use. Spread
23 the aggregate uniformly at the required rate and correct all non-uniform areas before
24 rolling.

25 Roll immediately after the aggregate is uniformly spread. Rolling consists of at
26 least 3 complete coverages with two 5 to 8 ton steel-wheel rollers. Continue rolling until
27 the aggregate is thoroughly keyed into the mat liquid asphalt. Do not allow crushing of
28 the aggregate or picking up of the material by the rollers. A combination steel-wheel and
29 pneumatic-tire roller will not be permitted. Use 2 individual steel-wheel rollers. The
30 3 coverages shall be completed within 5 minutes of the spraying of the mat liquid asphalt.

31 At the beginning of each mat liquid asphalt application, spread a paper over the end of
32 the previously completed mat coat and begin the asphalt application on the paper. After
33 application, remove and dispose of the paper.

1 After the aggregate is thoroughly seated, broom all excess aggregate off of the surface of
2 the mat coat as directed. Traffic may be permitted on the mat coat immediately after the
3 rolling and brooming is complete.

4 Correct defects or damage to the mat coat before the application of seal coat or plant mix
5 overlay. The seal coat or plant mix may be applied the same day the mat coat is placed
6 provided the mat coat has been satisfactorily applied and rolled.

7 **(B) Asphalt Seal Coat**

8 Use the type of seal coat as required by the contract. Test seal coat aggregates, obtain
9 approval and drain of free moisture before use.

10 Adjust the aggregate rates to provide a sufficient quantity of cover material to be spread
11 over the surface of the seal coat preventing traffic damage, where it is necessary to permit
12 traffic on sections of a completed seal coat.

13 Perform rolling of each layer immediately after the aggregate has been uniformly spread.
14 Rolling will consist of at least 3 complete coverages with 2 pneumatic-tire rollers
15 followed by at least one complete coverage with a 5 to 8 ton steel-wheel roller. These
16 coverages shall be completed within 5 minutes of the asphalt emulsion being placed
17 when using CRS-2. When CRS-2P or 2L is used all roller coverages shall be completed
18 within 4 minutes of the asphalt emulsion being placed. Do not allow crushing of the
19 aggregate or picking up of the material by the rollers. The use of a combination steel-
20 wheel and pneumatic-tire roller will be permitted instead of the 5 to 8 ton steel-wheel
21 roller.

22 The requirements of Subarticle 660-9(A) will apply to the width of seal coat construction,
23 application of liquid asphalt and aggregate and the construction of joints. When directed,
24 broom excess aggregate material from the surface of the seal coat and apply blotting sand
25 in accordance with Section 818.

26 The construction of the various types of seal coats will be in accordance with the
27 following additional requirements:

28 (1) Straight Seal

29 Apply liquid asphalt material to the existing surface followed immediately by
30 an application of granite or lightweight aggregate using Table 660-1 and
31 requirements in the contract. Uniformly spread the full required amount of aggregate
32 in one application and correct all non-uniform areas before rolling.

33 Immediately after the aggregate has been uniformly spread, perform rolling as
34 previously described.

35 (2) Split Seal

36 Apply liquid asphalt material to the existing surface followed immediately by an
37 application of granite or lightweight aggregate using Table 660-1 and requirements
38 in the contract ensuring each is uniformly placed over the existing surface and rolled
39 as previously described.

40 Immediately after the first application of seal aggregate has been made uniform and
41 rolled, apply the second application of the required amount of liquid asphalt material
42 and seal coat aggregate or blotting material as defined in Article 1012-3 and roll as
43 previously described.

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1 (3) Triple Seal

2 Follow the procedure outlined in Subarticle 660-9(B)(2) with the exception that only
 3 granite or lightweight aggregate can be used on the second application. Apply liquid
 4 asphalt material and granite aggregate, lightweight aggregate or blotting material as
 5 defined in Article 1012-3 as a third layer and roll as previously described.

6 Instead of the No. 78M or lightweight stone, blotting material as defined in
 7 Article 1012-3 may be used for the top aggregate layer with an application rate of
 8 approximately 6 to 12 lb/sy.

9 (4) Slurry Seal

10 (a) Mix Requirements

11 Submit to the Engineer a mix design and results of the wear loss by the wet track
 12 abrasion test (WTAT) as prepared by an approved testing laboratory. The
 13 WTAT will be performed in accordance with ASTM D3910. The wear loss by
 14 the Wet Track Abrasion Test shall not be greater than 100 g/sf. Apply the wear
 15 loss to the asphalt content limits designated on the JMF.

16 Place a test strip for approval by the Engineer before beginning the work. Once
 17 the consistency of the mix has been approved by the Engineer, maintain the total
 18 water content within 3% of the approved blend during the course of operation.

19 Submit a mix design for each type slurry. The gradation of the mix produced
 20 shall conform to the job mix range. The asphalt content (residual asphalt) shall
 21 not vary by more than 1.5% from the approved mix design.

| TABLE 660-2 SLURRY SEAL GRADATION CRITERIA | | | | | | | | | |
|---|--|--------|-------|-------|-------|-------|-------|------|--|
| Type | Percentage of Total by Weight Passing | | | | | | | | Remarks |
| | 3/8" | #4 | #8 | #16 | #30 | #50 | #100 | #200 | |
| B | 100 | 90-100 | 65-90 | 45-70 | 30-50 | 18-33 | 10-21 | 5-15 | Design Asphalt Content, % #: 8.5-13 |
| C | 100 | 90-100 | 70-90 | 32-54 | 23-38 | 16-29 | 9-20 | 5-15 | Design Asphalt Content, % #: 8.5-11.5 |

22 (b) Sampling Requirements

23 Samples for gradation will be taken from aggregate stockpiles designated by the
 24 Contractor for use. Take samples for asphalt content and total water content
 25 from the completed mixture. Samples of aggregate, filler and emulsion for wet
 26 track abrasion check test will be taken at the job site. The frequency of
 27 sampling and testing will be established by the Engineer based upon the
 28 Department's acceptance program and local conditions encountered.

29 (c) Equipment

30 Combine the mixing and spreading equipment in a single mobile operating unit.
 31 Attach a burlap drag 19" wide to the back of the unit for the purpose of
 32 smoothing the slurry seal. Equip the mobile unit with an approved feeder that
 33 will accurately meter or otherwise introduce a predetermined amount of material
 34 into the mixer simultaneously with the aggregate. Use the feeder whenever
 35 mineral filler is added to the mix. Equip the mobile unit with a water pressure
 36 system and fog type spray bar capable of completely fogging the surface to that
 37 slurry seal is to be applied. Use a mobile unit capable of an operative speed of
 38 at least 60 ft/min and that has sufficient storage capacity to mix and apply
 39 a minimum of 5 tons of slurry.

- 1 (i) Mixer
- 2 Use a continuous flow type mixer capable of delivering water and
- 3 a predetermined proportion of aggregate and asphalt emulsion to
- 4 a revolving multiblade mixer tank. Use a mixer that discharges the
- 5 thoroughly mixed product on a continuous basis and in that the blades of the
- 6 mixing unit are capable of thoroughly blending all ingredients.
- 7 (ii) Spreader
- 8 Use a spreader equipped with a flexible type squeegee positioned in contact
- 9 with the pavement surface and designed to apply a uniform spread with
- 10 a minimum loss of slurry.
- 11 (iii) Auxiliary Equipment
- 12 Provide hand squeegees, shovels and other hand equipment as necessary to
- 13 perform work in areas that are inaccessible to the unit.
- 14 (d) Construction Methods
- 15 (i) Preparation of Surface
- 16 Thoroughly clean the surface upon which slurry seal is to be applied of all
- 17 loose material, vegetation, silt spots and other objectionable materials
- 18 immediately preceding application by either brooming or the use of
- 19 compressed air.
- 20 (ii) Application
- 21 Wet aggregate immediately before mixing with the emulsion. The Engineer
- 22 may direct that the surface of the pavement be fogged with water
- 23 (approximately 0.05 gal/sy) immediately preceding the pass of the spreader.
- 24 Provide a slurry mixture of a consistency such that it rolls in the spreader
- 25 box in a continuous mass. Slurry that segregates in the spreader box, so that
- 26 flowing of liquids (water and emulsion) is evident, is not acceptable and
- 27 shall not be applied. The liquid portion of slurry mixture shall not flow
- 28 from either the spreader box or the applied slurry. Evidence of such flow is
- 29 sufficient cause for rejection of the applied material. Place the slurry on the
- 30 road in full lane widths up to and including 12 ft. Use a mechanical device
- 31 such as an auger to distribute the slurry mix in the spreader box.
- 32 Correct excess buildup of slurry on longitudinal and transverse joints.
- 33 Do not open treated areas to traffic until such time as the slurry seal has
- 34 cured to the extent that it will no longer be damaged by traffic. The applied
- 35 slurry mixture shall be uniform in texture and not flush under traffic.
- 36 Correct any areas not satisfactory to the Engineer. Nothing contained
- 37 herein is intended to relieve the Contractor from sharing in the
- 38 responsibility and performance of the treatments, if a failure occurs before
- 39 acceptance of the contract. Article 105-17 is amended accordingly.
- 40 Do not apply slurry seal surface course on surfaces containing ponding
- 41 water and the minimum surface temperature shall be 50°F.
- 42 The Engineer may require the surface area to that the slurry has been
- 43 applied by hand to be rolled using a pneumatic-tire type roller. Operate the
- 44 roller at an approximate tire pressure of 50 psi and subject the paved area to
- 45 a minimum of 2 coverages.
- 46 If oversize aggregate is encountered in the stockpile, immediately cease
- 47 operation and remove the oversize aggregate by screening.

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1 (iii) Thickness of Application

2 The average minimum thickness of application shall be at least 3/16" for
3 Type B and at least 5/16" for Type C, unless otherwise specified.

4 In the event of a test failure on compatibility or WTAT (loss greater than
5 100 g/sf) for a sample of material being applied to the road, take corrective
6 action before start-up of another day's run. If the sample taken following
7 adjustment fails the compatibility or WTAT, cease application on the road.
8 Maintain responsibility for furnishing additional compatibility or WTAT
9 results and field application site(s). Resume application when the
10 acceptability of seal is clearly demonstrated.

11 The disposition of rejected material will be subject to the approval of the
12 Engineer.

13 (5) Sand Seal

14 Place the fully required amount of asphalt material in one application and
15 immediately cover with the seal coat aggregate. Uniformly spread the fully required
16 amount of aggregate in one application and correct all non-uniform areas before
17 rolling.

18 Immediately after the aggregate has been uniformly spread, perform rolling.

19 When directed, broom excess aggregate material from the surface of the seal coat.

20 When the sand seal is to be constructed for temporary sealing purposes only and will
21 not be used by traffic, other grades of asphalt material meeting Articles 1020-5
22 and 1020-6 may be used instead of the grade of asphalt required by Table 660-1
23 when approved.

24 (C) Asphalt Mat and Seal

25 Construct the mat coat in accordance with Subarticle 660-9(A) using the size aggregate
26 required by the contract.

27 Construct the seal coat in accordance with Subarticle 660-9(B) using the type seal
28 required by the contract.

29 (D) Cape Seal

30 Construct the cape seal by applying a seal coat followed by applying a slurry seal as
31 defined in Subarticle 660-9(B).

32 660-10 MAINTENANCE AND PROTECTION

33 Maintain and protect the asphalt surface treatment until it is accepted by the Department.
34 Make all necessary repairs in such a manner as to preserve the uniformity of the surface.

35 660-11 MEASUREMENT AND PAYMENT

36 *Asphalt Surface Treatment, Mat Coat, No. ___ Stone; Asphalt Surface Treatment, ___ Seal*
37 *and Asphalt Surface Treatment, Mat and Seal* will be measured and paid at the contract unit
38 price per square yard. *Asphalt Surface Treatment, ___ Seal* includes *Straight Seal, Split*
39 *Seal, Triple Seal, Slurry Seal, Sand Seal* and *Cape Seal*. Payment at the above prices will be
40 made for replacing any satisfactorily completed asphalt surface treatment when such
41 replacement has been made necessary by defects in subgrade or base constructed by others.

42 When the Engineer directs that the rate of application of asphalt material be decreased below
43 the minimum rate shown in Table 660-1, no reduction in compensation will be made.

1 When the Engineer directs that the rate of application of asphalt material be increased above
 2 the maximum rate shown in Table 660-1, compensation to the Contractor will be made in the
 3 amount of 5 cents plus the verified cash cost to the Contractor at the point of delivery for each
 4 gallon of asphalt material, measured at application temperature, necessitated by the increase.

5 *Blotting Sand* will be paid in accordance with Article 818-4.

6 *Asphalt Surface Treatment, Slurry Seal* materials placed in stockpiles or on the road not
 7 meeting the required tolerances may be accepted at a reduced price if it is not considered
 8 detrimental to the life of the treatment by the Engineer in accordance with Article 105-3. The
 9 following price adjustment schedule will be used for *Asphalt Surface Treatment, Slurry Seal*
 10 when appropriate:

11 (A) One percent reduction in the bid price per square yard for each 1/10% the asphalt content
 12 is out of tolerance.

13 (B) One-quarter percent price adjustment in the bid price per square yard for each 1% that the
 14 aggregate gradation is out of the job mix range.

15 (C) One-half percent reduction in the bid price per square yard for each gram per square foot
 16 of wet-track abrasion test (WTAT) loss between 101 g and 200 g. Material having a loss
 17 greater than 200 g will not be accepted for payment.

18 (D) One percent reduction in the bid price per square yard for each 1% water in excess of the
 19 approved water content plus 3%.

20 Price adjustments under Subarticles 660-11(A) through 660-11(D) above shall apply
 21 concurrently; however, price adjustment will not apply in the event the material is rejected.

22 Furnishing and applying prime will be paid as provided in Article 600-9 for *Prime Coat*.

23 Payment will be made under:

| Pay Item | Pay Unit |
|--|-----------------|
| Asphalt Surface Treatment, Mat Coat, No. ___ Stone | Square Yard |
| Asphalt Surface Treatment, ___ Seal | Square Yard |
| Asphalt Surface Treatment, Mat and Seal | Square Yard |

24 SECTION 661

25 ULTRA-THIN BONDED WEARING COURSE

26 661-1 DESCRIPTION

27 Produce and place an Ultra-thin Bonded Wearing Course (UBWC), including an application
 28 of a warm Polymer-Modified Emulsion Membrane (PMEM) followed immediately with
 29 an UBWC hot mix asphalt overlay. Spray polymer-modified emulsion membrane
 30 immediately before applying hot mix asphalt.

31 Provide and conduct the QC and required testing for acceptance of the UBWC in accordance
 32 with the contract.

33 661-2 MATERIALS

34 Refer to Division 10.

| Item | Section |
|----------------------------------|----------------|
| Anti-strip Additives | 1012-1(G) |
| Coarse Aggregate | 1012-1(B) |
| Fine Aggregate | 1012-1(C) |
| Mineral Filler | 1012-1(D) |
| Polymer Modified Asphalt Binder | 1020-2 |
| Reclaimed Asphalt Shingles (RAS) | 1012-1(E) |