

REQUEST FOR QUOTATION

Quotes will be received in the Office of the Procurement Manager, Greenville Utilities Commission, 401 S. Greene Street, Greenville, North Carolina 27834 until 2:30 pm (EDT) on August 26, 2025, for the furnishing of 10MW Generator Site Foundations and Conduits.

Greenville Utilities reserves the right to reject any or all bids. **Late bids will not be considered.**

SECTION I
GENERAL INSTRUCTIONS FOR INFORMAL QUOTES
GREENVILLE UTILITIES COMMISSION
REQUEST FOR QUOTATION

1.0 NOTICE TO BIDDERS

Quotations, subject to the conditions made a part hereof, will be received in the Office of the Procurement Manager, Greenville Utilities Commission, 401 S. Greene Street, Greenville, North Carolina 27834 until 2:30 pm (EDT) on August 26, 2025.

2.0 STANDARD FORMS REQUIRED

Each bidder must submit a proposal on the enclosed request for quotation form. **The quotation must be signed by an authorized official of the firm.**

3.0 DEPOSIT

A deposit is **NOT** required for this quotation.

4.0 NC SALES TAX

Do **not** include NC sales taxes in the quoted figure; however, Greenville Utilities Commission (GUC) does pay sales tax. Sales tax should be added to the invoice as a separate item.

5.0 FEDERAL EXCISE TAX

GUC is exempt from Federal Excise Tax and will issue a Federal Exemption Certificate upon request to the successful bidder.

6.0 EXCEPTIONS TO BE CLEARLY STATED

If quote is not in strict accordance with Section II, "Specifications," bidder must list or note all exceptions **on the Request for Quotation Form**, otherwise, it is fully understood that the successful bidder will furnish equipment and/or materials exactly as specified. GUC reserves the right to accept or reject quotes and to determine the lowest responsible, responsive bid from the standpoint of quality, performance, and price.

7.0 EVALUATION AND AWARD OF QUOTATIONS

GUC reserves the right to reject any and all quotations, to waive any and all informalities, and to disregard all nonconforming or conditional quotes or counter proposals. In evaluating quotes, GUC shall consider whether the quotes comply with the prescribed requirements, plus all alternates or options requested. GUC reserves the right to include or exclude any option or alternative in GUC's opinion is in GUC's best interests. If a quote is to be awarded, it will be

awarded to the lowest responsible, responsive bidder whose evaluation by GUC indicates that the award will be in GUC's best interests.

8.0 PROMPT PAYMENT DISCOUNTS

Bidders are urged to compute all discounts into the price offered. If a prompt payment discount is offered, it may be considered in the award of the contract.

9.0 NUMERICAL ERRORS

In the case of a discrepancy between a unit price and the extension (the unit price multiplied by the number of units), the unit price governs. In the case where numerical quotes are stated both in numbers and in words, the words govern.

10.0 QUANTITIES

Quantities specified are only estimates of Greenville Utilities Commission's (GUC's) needs for a twelve month period. GUC reserves the right to purchase more or less than the stated quantities at firm prices indicated herein based on our actual needs.

11.0 CONTRACT PERIOD

TBD.

12.0 BID WITHDRAWAL

A bidder must notify GUC in writing of its request to withdraw a bid within seventy-two (72) hours after the bid opening, not including Saturdays, Sundays, or holidays. In order to justify withdrawal, the bidder must demonstrate that a substantial error exists and that the bid was submitted in good faith.

13.0 MINORITY BUSINESS PARTICIPATION PROGRAM

GUC has adopted an Affirmative Action and Minority and Women Business Enterprise Plan (M/WBE) Program. Firms submitting a proposal are attesting that they also have taken affirmative action to ensure equality of opportunity in all aspects of employment, and to utilize M/WBE suppliers of materials and labor when available.

14.0 CONTACT INFORMATION:

Questions regarding this bid request should be directed to Cleve Haddock, Procurement Manager, Finance Department at (252) 551-1533, haddocgc@guc.com. **All questions must be received via e-mail by or before 5:00pm (EDT) August 19, 2025.**

15.0 TERMS AND CONDITIONS

The attached Terms and Conditions of Greenville Utilities Commission (GUC) are considered part of the bid proposal.

**GREENVILLE UTILITIES COMMISSION
GREENVILLE, NORTH CAROLINA
SPECIFICATIONS AND BID DOCUMENTS
FOR GENERATOR FOUNDATIONS AND
CONDUITS**

TECHNICAL SPECIFICATIONS

1.0 Scope

The purpose of this document is to detail the technical specifications and requirements for (5) 12' 11" x 44' 1" generator pads with 4 stair pads per foundation. (8) 4" conduits and (2) 2" conduits to be installed from each foundation to existing transformer. Installing ground grid around each foundation and tying into grid to existing foundations.

The Materialman shall erect forms for the foundations, The Materialman shall also provide all miscellaneous hardware, conduit, and conduit fittings for a complete project. The Materialman will be responsible for any demolition/hauling/disposal of all spoils.

The work shall include furnishing all materials, supervision, labor, tools, equipment, and supplies necessary for the complete installation of the foundation and conduits as shown or called for in the Drawings and/or Specifications.

Materialman assumes all liabilities associated with the removal of the assets and is responsible for any remediation or decommissioning necessary before removal from site.

1.1 Bids will be received on one (1) Bid Schedule for generator foundations and conduit.

1.) Site work associated with the installation of the new foundations, conduits.

2.) Demolition hauling and disposal of all spoils.

3.) Labor.

2.0 General Conditions

2.1 All materials and equipment shall be new.

2.2 These Specifications describe the type, size, and characteristics of the various materials and equipment required to be furnished.

2.3 Strict adherence to these Technical Specifications is requested to facilitate checking and consideration of the Proposal.

2.4 Proposals shall include the following:

- 2.4.1 The Bidder shall state in his Proposal the way the equipment will be shipped.
- 2.4.2 Price shall include the cost of delivery and installation.
- 2.5 It is the intent of these Technical Specifications that the Generator foundations and conduit shall be complete. Details not mentioned in the Specifications but required for installation shall be furnished and installed by the Materialman.
- 2.6 It is the intent of these Drawings and Specifications that all foundations and conduit be furnished and installed by the Materialman, except where clearly stated that a specific responsibility lies with others.
- 2.7 All construction shall be performed in a workmanlike manner and shall conform to the Drawings and Specifications. The installation shall conform to the latest editions of the National Electrical Code, North Carolina Building Code, National Electric Safety Code, and National Fire Protection Association Codes.
- 2.8 The Drawings and Specifications are complementary, one to the other. That which is shown on the Drawings or called for in the Specifications shall be as binding as if both called for and shown. The intention of the Drawings and Specifications is to include all labor, materials, transportation, equipment, and any other items necessary to do a complete job.
- 2.9 Where the Materialman fails to make efficient use of materials which may be furnished by the Owner and where said failure results in waste or unnecessary use of materials, the Materialman will be liable to replace such waste and to furnish such additional materials as may be required due to unnecessary use.
- 2.10 If any Owner-furnished equipment or materials are lost or stolen, the Materialman agrees to pay the Commission the reasonable cost of replacing the missing equipment and materials.
- 2.11 In such cases where the nature of the work requires clarification by the Commission, such clarifications shall be furnished by the Commission with reasonable promptness by means of written instructions or Detail Drawings or both. Clarifications and Drawings shall be consistent with the intent of Contract Documents and shall become a part thereof.
- 2.12 Within ten (10) working days after the award of the Contract, the Materialman shall submit for approval a complete list of those items of materials and equipment he is required to furnish for the installation.
- 2.13 All submittals shall be formal and complete and shall include a cover letter or transmittal letter with five (5) prints. All submittals shall be made to Nicholas Peaden, Substation Engineer, 3355 NC Highway 43, Greenville, North Carolina 27834.
- 2.14 Materialman shall be responsible for laying out work. The Materialman shall, immediately upon entering project site for purpose of beginning work, locate all general reference points and take such action as is necessary to prevent their

destruction, lay out his own work, and be responsible for any error resulting from his failure to exercise such precaution.

- 2.15 The Materialman shall provide such temporary structures as required for proper storage of materials and equipment. The Materialman shall also provide a temporary electrical lighting and power distribution system of adequate size to properly serve the project. Work shall be installed in a neat and safe manner in accordance with the National Electric Code Article 305 and OSHA.
- 2.16 The Materialman shall comply with all applicable laws and regulations governing this work. The Materialman shall comply with Chapter XXXIII, Section 3304 "Safeguards During Construction," contained in North Carolina Building Code.
- 2.17 The Materialman shall be responsible for obtaining and paying for all permits, licenses, certificates, inspections, etc., required for the Generator pad and conduit, both permanent and temporary. Permits required by the North Carolina Utilities Commission or environmental regulatory agencies are excluded from this requirement.

2.18 Insurance

The Materialman shall maintain in full force and effect, the following types of insurance with the coverage's indicated:

- (a) Workman's Compensation Insurance in the statutory amount.
- (b) Comprehensive General Liability Insurance of not less than \$1,000,000 each occurrence and \$3,000,000 aggregate, including Comprehensive Broad Form Endorsement, with Contractual Liability Coverage.
- (c) Automobile Liability Insurance of not less than \$250,000 per person, \$500,000 per occurrence bodily injury and \$100,000 property damage.

The Materialman shall furnish a notarized certification of the appropriate insurance and said certification shall contain the following express language: "This is to certify that the policies of insurance described herein have been issued to the insured for whom this certificate is executed and that these policies are in force at this time. In the event of cancellation or material change in a policy affecting the certificate holder, thirty (30) days written notice will be provided to the Commission."

2.19 Correction of Work Before Final Payment

Any work, materials, or other parts of the work that have been condemned or declared not in accordance with the Contract by the Commission shall be removed from the work site by the Materialman and shall be immediately replaced by new work in accordance with the Contract at no additional cost to the Commission. Work or property of others or the Contractor which is damaged or destroyed by virtue of such faulty work shall be made good at the expense of the Materialman whose work is faulty.

Correction of condemned work described above shall be commenced within twenty-four (24) hours after receipt of notice from the Commission and shall be pursued to completion.

3.0 Standards

All equipment and materials covered by these Specifications and all tests applied thereto shall, unless otherwise stated herein, be in accordance with the applicable provisions of the latest editions of the standards of the ASTM, ANSI, AEIC, NEMA, ASME, IEEE, NESC, NFPA, NEC, and UL.

All equipment and materials shall conform to the latest emission standards or requirements of the Environmental Protection Agency (EPA), The North Carolina Department of Environmental Quality (DEQ), and local authorities having jurisdiction.

When the term “Standards” is used in the Specifications, it shall be understood to refer to the above Standards.

4.0 Delivery of Equipment and Shipping

The prices quoted shall include delivery, unloading, and installation of the equipment at the property 3280 MacGregor Downs Rd. Greenville, North Carolina.

The Materialman shall have a representative on site to receive equipment and material deliveries. The Commission or its personnel will not be responsible for receiving any deliveries. Prior to delivery, Materialman shall give 48 hours notice to: Nicholas Peaden, Greenville Utilities Commission, 3355 NC Highway 43, Greenville, phone: (252) 551 1580.

5.0 Foundation Arrangements

General

The Contractor shall furnish and install the reinforced concrete foundations as shown on the drawings, complete with excavation, off-site disposal of excavated spoils, grading, backfilling, and compaction of all excavations to restore existing grade levels, foundation layout, concrete, rebar, tie wire, and forming materials.

The reinforced concrete foundations, footings, piers and pads shall be installed as indicated on the Drawings, and to undisturbed earth. Dimensions indicated for anchor bolt settings shall be checked against the manufacturer's erection drawings, structural steel and/or equipment to be installed prior to the construction of the formwork.

5.1. Concrete

This section specifies the minimum materials, workmanship, and performance standards for cast-in-place concrete including reinforcing steel, forms, finishing, curing, and other associated work.

Cast-in-place concrete shall be in accordance with the latest applicable requirements of the ACI, ASTM, and CRSI, except as modified by these Specifications. For the purposes of mix design, cast-in-place concrete is considered to be of Exposure Category F2 as defined by ACI 318.

Requirements for Concrete by Exposure Class				
Exposure Class	Max <i>w/cm</i>	Minimum Compressive Strength	Air Content	Cement Type
F2	0.45	4,500	6 ± 1	I

**Source: ACI 318-11, Table 4.3.1

The Owner shall be informed at least 24 hours in advance of the times and places at which concrete will be placed.

5.2. Materials

5.2.1. Cement

Only one (1) brand of cement shall be used for exposed concrete. Cement reclaimed from cleaning bags or leaking containers shall not be used. Cement shall be used in the sequence of receipt of shipments, unless otherwise directed by the Engineer. Cement will be accepted on the basis of the manufacturer's mill certificate of compliance with the Specification requirements. Portland cement shall conform to the "Standard Specifications for Portland Cement", serial designation C150, Type I of the ASTM.

5.2.2. Cementitious Materials

Fly ash shall conform to the latest edition of ASTM C 618 and be of type Class F.

5.2.3. Fine Aggregate

Fine aggregate shall consist of washed natural siliceous sand, composed of clean, hard and durable grains, and shall be of a quality and gradation approved by the Engineer. Manufactured sand will not be accepted. All fine aggregate shall be free from injurious amounts of alkaline and organic impurities. Fine aggregate shall be graded from coarse to fine and shall conform to ASTM C33.

5.2.4. Coarse Aggregate

Coarse aggregate shall consist of crushed stone or other approved inert material with similar characteristics. It shall be clean, hard, durable, and free from injurious amounts of deleterious matter. Clay and shale particles shall not exceed 1 percent (1%). Coarse aggregate shall be graded from coarse to fine and shall conform to ASTM C33.

5.2.5. Water

Water shall be clean, fresh, and free from injurious amounts of mineral and organic substances. Iron in water shall not exceed 0.25 ppm.

5.2.6. Admixtures

All admixtures are to be supplied by one of the following approved manufacturers: Master Builders, WR Grace & Co., or Sika Chemical. Admixtures shall conform to the following standards:

Water Reducing (plasticizer)	ASTM C494, Type A
Water Reducing and Retarding	ASTM C494, Type D
High Range Water Reducer	ASTM C494, Type F
High Range Water Reducer and Retarder	ASTM C494, Type G
Air-Entraining Agent	ASTM C260

5.2.7. Reinforcing Steel

- a. Reinforcing Bars - All reinforcing steel bars shall be of the deformed type conforming to the requirements of the "Standard Specifications for Bars, Deformed, and Plain, Billet-Steel for Concrete Reinforcement". Steel shall be Type A615 or A996-Grade 60.
- b. Welded Wire Fabric – Welded wire fabric reinforcement used in slabs shall conform to the requirements of ASTM A1064. It shall be continuous, shall have joints lapped at least one full mesh, and shall be supported at proper elevations by standard accessories. Lapping of sheets shall be staggered to avoid continuous lap in either direction.
- c. Accessories – Accessories such as chairs, ties, bolsters, spacers, etc., shall be of suitable type, as approved, adequate to prevent displacement during construction.
- d. Mechanical Splices – Classified Type 2 in accordance with ACI 318-11 and approved by Engineer. Dayton/Richmond "Dowel Bar Splicer" or "Coupler Splice" system, Bar-Lock "Coupler Systems" or Barsplice Products.

5.2.8. Forms

Forms shall be made of rigid, straight, and uniform material that is free of injurious chemicals or organic matter.

Plywood	Product Standard PS1, waterproof, resin-bonded, exterior type Douglas fir; face adjacent to concrete Grade B plywood or better.
Metal	Of sufficient gauge to resist deformation.
Fiberboard	Fed Spec LLL-B-810, Type II; tempered, waterproof, screenback.
Lumber	Straight, uniform width and thickness, and free from knots, offsets, holes, dents, and other surface defects.
Chamfer strips	Clear pine, surface against concrete shall be planed.
Form coating	Nonstaining and nontoxic after 30 days, VOC compliant; Burke "Form Release (WB)," L&M Chemical "E Z Strip," Nox-Crete "Form Coating," or Symons "Thrift Kote E."
Polyethylene film	Fed Spec L-P-378D, Type I; 6 mil.

5.2.9. Finishing Compounds

Epoxy bonding compound	Sika Chemical "Sikadur Hi-Mod"; Five Star Products, Inc. "Five Star Epoxy"; or acceptable equal.
Membrane Curing compound	ASTM C1315, Type I, Class A, maximum VOC 5.8 lb/gal (700 g/L), minimum 25 percent solids, acrylic, nonyellowing, unit moisture loss 0.40 kb/m ² maximum in 72 hours; L&M Chemical "Dress & Seal 30," Sonneborn "Kure-N-Seal 30," or Symons "Cure & Seal 30%."

5.3. Submittals

Three copies of all reports shall be submitted to the Owner and Engineer prior to any concreting operations.

5.3.1. Material Reports

The report should include the source and quality of concrete materials and the concrete proportions proposed for the work. Complete certified reports covering the materials and proportions proposed and tested in accordance with ACI 318 shall be submitted to the Owner and Engineer. Reports shall be prepared by an independent testing laboratory. Owner and Engineer review of these reports will be for general acceptability only; continued compliance with all contract provisions will be required.

Reports on cement shall include the type, brand, manufacturer, composition, and method of handling (sack or bulk).

Reports on admixtures shall include the ASTM C260 or ASTM C494 classification, brand, manufacturer, and active chemical ingredients. All admixtures shall be the products of one manufacturer.

Reports on aggregates shall include the source, type, gradation, deleterious substances, soundness, potential for harmful materials, and potential for alkali reactivity. The results of all tests and field service records to verify potential reactivity are required to verify compliance with ASTM C33..

A certification that the reinforcing steel furnished complies with the requirements specified in the section titled "Materials" shall be furnished to the Owner and Engineer. The certification shall be signed by the Contractor and the reinforcing steel fabricator.

5.3.2. Mix Design Reports

A tentative concrete mix shall be designed and tested for each size and gradation of aggregates and for each mix class specified. Mix Design Reports shall be provided to the Owner and Engineer for each mix class to be utilized in the project and intended use identified on each mix report. Design quantities and test results of each mix shall be submitted to Owner and Engineer for review. With Engineer's and/or Owner's approval, acceptable mixes may be field adjusted as necessary to meet the requirements of these Specifications.

The report for each tentative concrete mix submitted shall contain the

following information:

- a. Intended use and placement method.
- b. Design Slump.
- c. Total gallons of water per cubic yard.
- d. Cement content.
- e. Cementitious materials content.
- f. Ratio of fine to total aggregates.
- g. Weight (surface dry) of each aggregate per cubic yard.
- h. Quantity of each admixture.
- i. Air content.
- j. Compressive strength based on 7 day and 28 day compression test.
- k. Times of initial set.
- l. Documentation of average compressive strength or mix proportioning data per ACI 318.

Initial set tests shall be made at ambient temperatures of 70° F and 90° F to determine compliance with the initial set time specified hereinafter. The test at 70° F shall be made using concrete containing the specified plasticizing and air- entraining admixtures. The test at 90° F shall be made using concrete containing the specified plasticizing retarder and air-entraining admixtures. The initial set shall be determined in accordance with ASTM C403.

5.3.3. Mix Class

Each concrete mix class shall be designed and controlled within the limits specified in the following table:

Mix Class Table Coarse					
Usage	28 Day Strength (psi)	Aggregate Size No. 4 Sieve	Slump +/- 1"	Min Cement (lb/cu yd)	Max Water/Cement Ratio
General Usage	4,500	1"	4"	535	0.45
Drilled Piers (dry, uncased, or permanent casing)	4,500	3/4"	5" (1)	560	0.45
Drilled Piers (temporary casing)	4,500	3/4"	7" (1)	560	0.45
Drilled Piers (slurry displacement)	4,500	3/4"	8" (1)	560	0.45
Underwater	5,000	3/4"	8"	658	0.41
Note: A plasticizer or plasticizing retarder shall be included in all general usage and drilled piers concrete mixes. High range water reducer (Type F or G) shall be included in all underwater mixes.					
(1) Slump requirement during placement with any admixtures.					

**Source: ACI 318-11, Table 4.3.1; ACI 336.1-01, Table 2.4.3; ACI 350-06, Table 4.1.2.1

Concrete shall not be deposited under water, except with specific permission of the Owner and Engineer.

5.4. Mix Requirements

The acceptability of concrete will be judged on compliance with the specified requirements listed in the Mix Class Table and not on the basis of strength alone.

5.4.1. Total Water Content

Total water content of concrete shall not exceed the amount calculated using the maximum water to cement ratio in the Mix Class Table.

5.4.2. Slump

Slump shall not be greater than that indicated in the Mix Class Table for each mix, unless otherwise authorized by the Owner.

5.4.3. Total Air Content

The total volumetric air content of concrete after placement shall be six

percent plus or minus one percent ($6\% \pm 1\%$).

5.4.4. Admixtures

The admixture content, batching method, and time of introduction to the mix shall be in accordance with the manufacturer's recommendations for compliance with these Specifications.

A plasticizing or plasticizing retarder admixture shall be included in all concrete, unless otherwise accepted by the Owner.

Plasticizing retarder admixture shall be adjusted as specified under the initial set.

5.4.5. Strength

The minimum 28-day acceptable compressive strength for each mix class as determined by ASTM C39 shall not be less than that indicated in the Mix Class Table.

All concrete shall exceed the specified minimum compressive strengths. Each test cylinder will be evaluated separately, and the Owner will be the sole judge of the validity and representative qualities of the tests.

In cases where the strength of the test cylinders for any portion of the work falls below the requirements specified herein, the Owner or Engineer may require the Contractor to secure test specimens of the hardened concrete represented by these cylinders. Specimens shall be secured and tested in accordance with ASTM C42 and shall have a minimum diameter of 3 inches.

Dependent upon the location of the concrete section in question, the Owner or Engineer may approve low frequency ultrasonic testing or other nondestructive techniques as an alternate to cone drilling and testing.

If the additional investigation verifies the existence of defective concrete, one of the following remedial actions shall be implemented as determined by the Owner:

- a. Assume the costs to remove and replace all defective concrete.
- b. Assume the cost of design and construction changes necessary to incorporate the inferior concrete.
- c. Provide satisfactory reimbursement or allowance to the Owner for the acceptance of the lower quality concrete.

5.4.6. Initial Set

The initial set as determined by ASTM C403 shall not be attained until at least

2.5 hours after the water and cement are added to the aggregates. The quantity of retarding admixture shall be adjusted as necessary to compensate for variations in temperature and job conditions.

5.5. Storage of Materials

Cement shall be stored in suitable moisture proof enclosures. Reclaimed cement or cement that has become caked or lumpy shall not be used.

Aggregates shall be stored so that segregation and the inclusion of foreign materials are prevented. The bottom 6 inches of aggregate piles that have been in contact with the ground shall not be used.

Reinforcing steel and embedments shall be carefully handled and stored on supports that will keep the steel from contact with the ground.

5.6. Batching and Mixing

Batching and mixing may be performed at the jobsite with suitable equipment, or by an acceptable ready-mix concrete supplier. Personnel performing the batching and mixing shall be qualified and experienced. Mixing and transporting concrete shall be in accordance with ASTM C94 unless otherwise indicated herein.

5.6.1. Batching

Aggregates and cement shall be measured by weight. Aggregate weights shall be adjusted for moisture content.

Each admixture shall be dispensed by a mechanical device that will ensure accurate and automatic measurement.

The minimum amount of water required to produce the desired slump shall be batched automatically. Any additional water required to produce and maintain a uniform slump shall be added manually by the mixer operator. Slump shall be kept uniform. Aggregates shall float uniformly throughout the mass and the concrete shall flow sluggishly when vibrated.

5.6.2. Mixing

Concrete shall be mixed in a rotating drum as specified in ASTM C94 until all ingredients are uniformly distributed throughout the batch. Mixers shall not be

loaded in excess of their rated capacities. Each batch shall be completely discharged before the mixer is recharged.

5.6.3. Ready-Mix Concrete

Ready-mixed concrete shall conform to ASTM C94, except as otherwise specified herein.

Truck mixers shall be revolving drum type and shall be equipped with a mixing water tank. Only the prescribed amount of mixing water shall be placed in the tank for any one batch, unless the tank is equipped with a device by which the amount of water added to each batch can be readily verified by the Owner.

A delivery ticket shall be prepared for each load of ready-mixed concrete delivered. The truck operator shall hand a copy of each ticket to the Owner at the time of delivery. Tickets shall indicate the mix identification, the number of yards delivered, the quantities of each material in the batch, the outdoor temperature in the shade, the time at which the cement was added, and the numerical sequence of the delivery.

When a truck mixer or agitator is used for transporting concrete, the concrete shall be delivered to the jobsite and completely discharged within 45 minutes, or before the drum has revolved 150 revolutions, whichever comes first, after the introduction of the mixing water to the cement and aggregates, or the introduction of the cement to the aggregates, unless a retarding agent is used, in which case the time may be doubled. Longer time periods must be approved by the Owner. In hot weather, or under conditions contributing to quick stiffening of the concrete, a time less than that specified above may be required by the Owner. When a truck mixer is used for the complete mixing of the concrete, the mixing operation shall begin within 30 minutes after the cement has been mixed with the aggregates.

5.7. Placement Temperature

The temperature of concrete, when being placed, shall be checked in accordance with ASTM C1064 and be as follows:

- a. Not less than 40°F in moderate weather.
- b. Not less than 50°F in weather during which the mean daily temperature drops below 40°F.
- c. Not greater than 90°F during hot weather.

5.8. Hot Weather Concreting

Except as modified herein; hot weather concreting shall comply with ACI 305R. A water-reducing retarder shall be added to the concrete mix when the placement temperature of the concrete exceeds 75°F.

At air temperatures of 90°F or above, special procedures shall be applied to keep the concrete as cool as possible during placement and curing. The temperature of the concrete during placement shall not exceed 90°F.

5.9. Cold Weather Concreting

Cold weather concreting shall comply with ACI 306R.

5.10. Field Control Testing

The Contractor shall engage an independent professional testing company and laboratory to provide all necessary equipment and personnel to perform all concrete testing at the

Contractor's expense. The testing company and laboratory must be approved by the Owner and Engineer, prior to commencing work. Personnel performing tests shall be certified ACI Grade 1 Concrete Field Testing Technician. Copies of the test results shall be sent directly from the testing company to the Engineer for review. Structures or equipment shall not be placed on the foundations until acceptance of test results by the Engineer.

The frequency hereinafter specified for each field control test is a minimum. Refer to the appropriate section of this specification for further information on testing of different concrete placements. If directed to do so by the Owner, any additional field control tests required shall be made.

5.10.1. Sampling

All concrete used for testing purposes shall be obtained in accordance with ASTM C172.

5.10.2. Slump

Consistency will be determined in the field by the slump test in accordance with ASTM C143. A minimum of one (1) slump test shall be performed on each load of concrete. If water is added at the job site to increase the slump, the recorded slump shall be tested after the addition of water. The specified slump for each class and usage of concrete can be found in the Mix Class Table.

5.10.3. Air Entrainment

Air entrained concrete shall be used in all applications where concrete will be exposed to moisture and cycles of freezing and thawing. Air content shall be determined in accordance with ASTM C231 or ASTM C173. A minimum of one

(1) air entrainment test shall be performed for each batch of concrete used on the project and from which concrete compression test cylinders are made. The specified air content shall be between five and seven percent (5% and 7%).

5.10.4. Compression Test Cylinders

A set of compression test cylinders is required for each batch of concrete used on the project. Each set will consist of five (5), four inch by eight inch (4" x 8") compressive test cylinders prepared, cured, and delivered in accordance with ASTM C31. Each cylinder shall be labeled with the project name, date, and cylinder identification number. An information card or field report shall be completed for each set of cylinders and shall include the following:

- a. Date sampled
- b. Time batched
- c. Time sampled

- d. Ticket number
- e. Air temperature
- f. Concrete temperature
- g. Gallons of water added
- h. Specified 28-day strength
- i. Slump
- j. Air Content
- k. Admixtures
- l. Concrete mix identification
- m. Specific location of pour

The test cylinders shall be transported to a professional testing laboratory at least 8 hours after final set and within 20 to 24 hours from the time they were made. Transportation time of test cylinders shall not exceed 4 hours.

Testing of the cylinders shall be handled by the Contractor through a qualified testing laboratory in accordance with ASTM C39 in accordance with the following schedule:

- a. One (1) cylinder at seven (7) days
- b. Three (3) cylinders at twenty-eight (28) days
- c. One (1) cylinder reserved for a fifty-six (56) day test, if necessary

The Contractor shall require the laboratory to send three sets of compressive test reports to the Owner, in addition to those copies furnished to the Contractor. One

(1) copy of the test reports shall be forwarded directly to the Engineer for review within two (2) working days after the tests are performed.

In the event a test fails to meet the specified compressive strength requirements, the Engineer may require the Contractor to obtain core samples of the hardened concrete in question. Core samples shall be secured and tested in accordance with ASTM C42 and shall have a minimum diameter of three inches (3"). If tests further substantiates that the concrete represented by the cylinders and core samples is below the strength requirements specified herein, the Engineer may order such concrete removed and replaced at the expense of the Contractor.

At the location of pole foundations one of the cylinders shall be taken from the concrete used in the top 5 feet of each pole foundation. Such cylinders shall be individually identified by pole number and tested prior to pole erection.

5.10.5. Test Reports

Certified reports of all tests made by the testing laboratory shall be promptly furnished to the Owner and Engineer, and all other persons designated by the Owner.

5.11. Compaction

The contractor shall engage an independent professional Geotechnical engineering company to provide all necessary equipment and personnel to perform excavation inspections of foundation subgrade. If unsuitable material is encountered at the proposed subgrade elevation shown on the drawings, the contractor shall, under the direction of the geotechnical engineer, remove the unsuitable material and backfill with well compacted six inch (6") layers of stone or gravel base material, or concrete.

5.12. Protection Against Moisture Loss

Immediately after placing or finishing, concrete surfaces not covered by forms shall be protected against moisture loss (cured) for not less than seven (7) days by covering with white opaque polyethylene sheets lapped four inches (4") at edges and ends. Burlap may be used only for unexposed concrete surfaces and shall be in at least two (2) layers. Surface from which forms are removed before the curing period has elapsed shall be protected as specified for surfaces not covered by forms. All materials used for prevention of moisture loss shall be in accordance with ASTM C171.

5.13. Curing

Curing of concrete shall be by methods which will keep the concrete surfaces adequately wet during the specified curing period and in accordance with ACI 308R. Troweled surfaces shall be cured, except those which will receive a separate finish or coating, with the membrane curing compound specified in the article titled "Materials" in this section. Float finished surfaces shall be cured, except those which will receive a separate finish, with either the membrane curing compound specified or with water. Only water curing will be permitted on surfaces that will receive a separate finish or coating. Water saturation of concrete surfaces shall begin as quickly as possible, but no later than 12 hours in dry weather and 24 hours in damp weather after initial set of the concrete. The rate of water application shall be regulated to provide complete surface coverage with a minimum of runoff. The application of water to formed surfaces may be interrupted for surface rubbing only over the areas being rubbed at the time. The concrete surface shall not be allowed to become dry during such interruption.

After rubbing has been completed, rubbed surfaces shall be covered with saturated burlap for the remainder of the curing period.

Membrane curing compound shall be applied within 30 minutes after final finishing of the surface. Membrane curing compound shall be spray applied at a coverage of not more than 300 square feet per gallon. Membrane curing shall not be used on surfaces that will be covered at a later date with grout, mortar, concrete, or other coating.

5.14. Protection

The Contractor shall protect all concrete against injury until final acceptance by Owner. The Contractor shall be prepared to protect all concrete in accordance with the requirements of this paragraph. Temperature shall be controlled by controlling the temperature of aggregate and mixing water. Mixing time shall be kept at a minimum and elapsed time between mixing and placing shall be minimized. The interior surfaces of forms and ground upon which concrete is to be placed shall be thoroughly wetted before concrete is poured. After the first frost and until the mean daily temperature in the vicinity of the work rises above 40°F for more than 1 day, the concrete shall be protected against freezing for not less than 48 hours after it is placed.

5.15. Earthwork

5.15.1. Surveying

Prior to commencing earthwork, the Owner shall provide staking at the site. This will include substation centerline, transmission line center line, including points of intersection (PIs) and line of sight points, and new structure pole and anchor locations. Excavation work shall not proceed until Owner approves staked structure locations.

The Contractor shall be responsible for all necessary environmental and roadway surveying necessary to complete the project. The Contractor shall perform all subsequent layout work necessary to ensure that the foundation is constructed to the correct dimensions and in the locations specified on the Drawings. If the Contractor finds that any staking has been disturbed, is missing or is in error, he shall notify the Engineer promptly. The Contractor shall exercise caution to protect all reference staking.

5.15.2. Subsurface Conditions

The Contractor shall familiarize himself with the subsurface conditions as shown on the boring logs, and exercise his own judgment as to the nature and difficulty of the proposed work. It should be noted in particular that the ground water level may change from the level existing at the time of the test borings.

5.15.3. Excavations

All excavation will be classified as “common excavation.” All excavation, including soft shale, gravel or other material, which can be moved by hand or machine, is defined as common excavation. Owner shall be notified if excavated material is significantly different from that indicated in the soil borings.

Excavation work shall include the removal and subsequent handling of all materials excavated or otherwise removed in performance of the contract work, regardless of the type, character, composition, or condition thereof. Over- excavation shall be backfilled with well compacted six inch (6") layers of stone or gravel base material, or concrete. If the over-excavation is unnecessary, the cost of the backfill shall be borne by the Contractor. The quality of the soil and the adequacy of its bearing value shall be decided by the Engineer before backfill or concrete is placed in any excavation. Where water is encountered, the excavation shall be kept dry by pumping during the installation of the structure and during the backfilling process. If unsuitable material is encountered at the proposed bearing surface under the concrete foundation, the Geotechnical Engineer may require further excavation to reach sound bearing. Proposed washed stone or no frost structural fill indicated under foundations is required as an integral part of the foundations. The dimensions indicated on the drawings are a minimum and required for adequate foundations.

All existing underground pipes, conduits, drains, and other underground facilities uncovered or otherwise affected by the excavation work shall be located, protected, shored, braced, supported, and maintained.

Excavation for structures shall be performed according to lines and elevations indicated on the drawings and to the limits required to perform the line construction work. Machine excavation shall be controlled to prevent undercutting the proper subgrade elevations. Machine excavation shall not be used within 5 feet of existing permanent structures and facilities. Only hand tools shall be used for excavation around existing permanent structures and facilities.

Work shall be performed so that construction areas will be as free as possible from obstructions and from interference with the transportation, storage, or handling of materials. Excavated materials free of trash, rocks, roots, and other foreign materials, and that meet the specified requirements, may be used as required for backfills constructed under these Specifications.

Excavations shall be maintained in a safe, clean, and sound condition up to the time of placement of concrete. All excavations shall be suitably protected when not attended. Whenever necessary, the Contractor shall re-excavate materials which have accumulated in previously prepared excavations. Any muck or other unsatisfactory bearing material resulting from frost, action or entrance of water into excavations previously prepared to the required bearing shall be removed and replaced with well-compacted stone or gravel, backfill or concrete at the Contractor's expense.

Subgrades for structures shall be firm, dense, and thoroughly compacted and consolidated; shall be free from mud and muck; and shall be sufficiently stable to remain firm and intact under the feet of the workers.

Subgrades that are otherwise solid but become mucky on top due to construction operations shall be reinforced with one or more layers of crushed rock or gravel subgrades.

The finished elevation of stabilized structure subgrades shall not be above the subgrade elevations indicated on the drawings.

5.15.4. Rock Excavation

The Contractor shall be responsible for the removal and proper disposal of solid rock when encountered in holes for concrete foundations. Solid rock shall be defined as solid, naturally-occurring mineral formations that cannot be effectively removed by conventional trenchers, backhoes, or pressure augers. Loose rock or limestone in intermittent layers that result in "difficult digging" shall not be defined as solid rock excavations. "Solid rock" shall require the use of air hammers, blasting or other specialized equipment (Note: Blasting must be approved by the Owner or Engineer in accordance with local ordinances). When solid rock, boulders, or detached stones are encountered and cannot be removed by normal power-driven drills or augers, the Owner shall be notified. Rock excavation techniques shall be used to achieve the desired excavated dimensions. Rock excavation shall consist of igneous, metamorphic, and sedimentary stones, each having a volume of 1/2 cubic yard or more, as determined by physical or visual measurements and approved by Owner. If rock is encountered, it shall be removed and replaced with suitable materials in such a manner as to provide fully compacted earth in all areas disturbed external to foundations. In the event that rock is encountered in the excavation, the Contractor shall be compensated for such rock removal, based upon unit price as set forth by the Contractor in the Form of Proposal. In the event such rock is encountered, it shall be the duty of the Contractor to notify the Engineer and/or Owner and arrange a meeting to agree upon the approximate total cost for the removal of the rock, prior to any removal of the rock. Quantities will be agreed upon jointly by the Contractor and the Owner (or Engineer) as excavations occur. Over-excavation to remove rock will not be counted in the quantity of rock excavations. An accurate record shall be kept of the dates and amounts of rock excavation at each location. The Owner will authorize payment for rock excavation at each location by signing the Contractor's record as excavations occur. Payment will be on a cubic yard basis as measured in place in the hole requiring rock excavation. This measurement will be based on the foundation excavation or normal trench width and depth, as if no rock were encountered.

In cases where the extent of rock excavation is questioned, the Engineer and/or Owner may require the Contractor to prove that material should be classified as rock excavation. The Contractor shall provide a demonstration that the material cannot be removed with a backhoe equipped with a minimum one-half (1/2) cubic yard heavy-duty trenching bucket placed on a machine capable of a lifting capacity of 7,500 pounds at a trench depth of ten feet (10'). The Contractor may be required to provide equipment specification data verifying that the above minimum-rated equipment will be used for demonstration purposes. The equipment is to be in good repair and in proper working condition.

5.15.5. Blasting

Blasting or other use of explosives will not be permitted without Owner's approval.

5.15.6. Sheeting and Shoring

The Contractor shall do all bracing, sheeting, and shoring necessary to perform and protect all excavations as required for safety and to conform to laws and regulations of all governmental bodies having jurisdiction. When sheeting is used, it shall be removed during or upon completion of backfilling.

The stability of previously constructed structures and facilities shall not be impaired or endangered by new excavation work. Previously constructed structures and facilities include those existing when this construction begins and those provided under these Specifications.

Adequate sheeting and shoring shall be provided as required to protect and maintain the stability of previously constructed structures and facilities and the sides of excavations until they are backfilled. Sheeting, bracing, and shoring shall be designed and built to withstand all loads that might be caused by earth movement or pressure. Sheeting and shoring shall maintain the shape of the excavation under all circumstances.

5.16 Special Conditions

Remediation of the loose or soft near surface soils should be performed by the grading contractor per the Geotechnical Engineer's recommendations prior to foundation installation.

Over excavation and replacement are anticipated, at a minimum, as detailed on the drawings. See Section 1.12 Compaction and Section 1.16 Earthwork.

The use of casing or slurry drilling should be anticipated for construction of the drilled piers. See Section 3.0 Drilled Cylindrical Foundations for specifications regarding construction and installation procedures and Section 1.4.3 Mix Class for concrete mix requirements.

5.17 Slabs on Grade and Mat Foundations

5.17.1 General

This section covers general installation of concrete slabs on grade, mat foundations, and vertical surfaces; formwork; testing of concrete for slabs on grade and mat foundations; and other appurtenant work. All work shall be in accordance with the Plans, Specifications, and Assembly Drawings.

5.17.2 Concrete

The Contractor shall supply ready mixed concrete prepared in accordance with ASTM C94, "Standard Specification for Ready-Mixed Concrete" with a minimum compressive strength of 4,500 psi at twenty-eight (28) days when tested in accordance with ASTM C39. Concrete shall conform to specifications in Mix Class Table. Air content for concrete in slabs on grade and mat foundations shall be six percent plus or minus one percent (6% \pm 1%).

5.17.3 Subgrade

The subgrade shall be brought to an even plane and compacted solid. Washed stone or no frost structural fill shall be installed, at a minimum, as indicated on the drawings. All slabs on grade and mat foundations shall be placed on a minimum six inch (6") thick layer of washed stone. An independent professional Geotechnical engineering company shall inspect all subgrades for adequate bearing capacity as specified on the Foundation Drawings.

5.17.4 Formwork

Forms shall be constructed to the shape, form, line, and grade required and shall be maintained sufficiently rigid to prevent deformation under the load imposed by supported inserts or by wet concrete. The top edges of forms shall be finished to a specified elevation, slope, or contour. They shall be brought to a true line and grade so that the top concrete surface can be finished with a screed or template resting on the top edges of the forms.

Design and construction tolerances shall be in accordance with ACI 117. Forms shall be designed and constructed in proper position and accurate alignment. Formed surfaces exposed to view shall have a Class C finish, and concealed surfaces may have a Class D finish as defined by ACI 301.

Concrete shall be placed against job-built plywood forms or forms that are lined with plywood or fiberboard, except as otherwise specified. At Owner's discretion, prefabricated forms or metal frames may be permitted only for surfaces that are not normally

exposed to view when construction has been completed. Plywood and fiberboard shall be new when brought to the construction site and shall be properly coated, protected, and maintained throughout its use. All plywood and fiberboard materials that are damaged, cracked, weathered, or otherwise unsuitable, in the Owner's opinion, for producing smooth, uniformly textured formed surfaces will be rejected as form material.

Vertical surfaces of footings extended above grade shall be formed.

Form ties shall be of the removable end, permanently embedded body type, and shall have sufficient strength, stiffness, and rigidity to support and maintain the form in proper position and alignment without the use of auxiliary spreaders. Outer ends of the permanently embedded portions of form ties shall be at least 1 inch back from adjacent outer concrete faces. Permanently embedded portions of form ties that are not provided with threaded ends shall be constructed so that the removable ends can be broken off by twisting, without chipping or spalling the concrete surface. The type of form ties used shall be acceptable to the Owner.

Form ties shall be uniformly spaced in exposed surfaces and aligned in horizontal and vertical rows.

Chamfer strips shall be placed in forms to bevel all salient edges and corners except edges which are to be buried and edges which are indicated on the drawings as requiring special treatment. Foundations shall have formed beveled salient edges for all vertical and horizontal corners unless specifically indicated otherwise on the drawings. Bevel dimensions shall be 3/4 by 3/4 inch unless indicated otherwise on the drawings.

5.17.4.1. Coating

Forms shall be coated with form oil before reinforcement is placed.

5.17.4.2 Removal

Forms shall not be removed until permission of the Engineer has been obtained.

5.18 Expansion Joints

Expansion joints and joints between slabs and vertical surfaces shall be installed according to the Drawings. Premolded fibrated asphalt expansion joint material shall be in accordance with ASTM 1751 and shall be one-half inch (1/2") wide and extend from the bottom of the slab to one half inch (1/2") from the top of the slab. The premolded fibrated asphalt expansion joint material shall then be covered by a one-half inch (1/2") wide strip of polyethylene bond breaker tape. The tape shall be installed along the top of the asphalt expansion joint material only and not on the vertical walls of the slabs. The polyethylene bond breaker tape shall then be covered with one-half inch (1/2") wide by one-half inch (1/2") thick by required length of Vulkem #45 polyurethane sealant for horizontal joints and Vulkan #921 sealant for vertical joints according to the manufacturer's installation guidelines.

5.19 Construction Joints

Construction joints not indicated on the Drawings shall be so made and located as to least impair the strength of the structure. Where a joint is to be made, the surface of the placed concrete shall be thoroughly wetted and slushed with a coat of neat cement grout immediately before placing the new concrete. All laitance shall first be removed from the placed concrete.

5.20 Reinforcement

Reinforcements shall be accurately formed. Unless otherwise indicated on the drawings or specified herein, the details of fabrication shall conform to ACI 318.

All bar supports, ties, spacers, bolsters, inserts, screeds, and other concrete accessories required shall be provided to maintain reinforcing in its proper position and permit proper placement of concrete. Responsibility for the design of all bar support systems shall be assumed by the contractor.

Except where indicated on the drawings, welding of reinforcement for any purpose, and tack welding in particular, is expressly prohibited. Reinforcements upon which unauthorized welding has been performed will be presumed to be damaged and such reinforcing shall be removed and replaced at Contractor's expense. Replacement materials shall conform to all applicable requirements of these specifications.

Welded chairs and supports may be used provided they are clamped or wired to the reinforcement.

Except as otherwise indicated on the drawings, metal reinforcement for concrete shall have the concrete protective cover specified in Chapter 7 of ACI 318.

Steel reinforcing bars shall be placed in the concrete wherever shown on the drawings. Unless otherwise shown on the drawings or directed, measurements made in placing the bars shall be to the center lines of the bars. Before the reinforcing bars are placed, the surfaces of the bars and the surfaces of any metal bar supports shall be cleaned of heavy flaky rust, loose mill scale, dirt, grease, or other foreign substances. After being placed, the reinforcing bars shall be maintained in a clean condition until they are completely embedded in the concrete. Main reinforcement shall have a minimum clear protective cover to the surface of the concrete as shown on the drawings. Reinforcing bars shall be accurately placed and secured in position so that they will not be displaced during the placing of the concrete, and special care shall be exercised to prevent any disturbance of the reinforcing bars in concrete that already has been placed. Rustproof metal chairs, metal hangers, metal spacers, or other satisfactory metal supports may be used for supporting reinforcing bars. Precast concrete blocks may be used for supporting reinforcing bars.

With the exception of lapped portions of spliced bars that are wired or clamped together, the clear distance between parallel bars shall be not less than 1.5 times the maximum size of coarse aggregate in the concrete, or less than 2 inches.

Unless otherwise required by the Specifications or drawings, splices shall conform to ACI 318. Splices shall be Class B or C tension-lapped splices unless a different class is indicated on the drawings.

Splices shall not be used in regions of maximum bending stress. Welded splices shall not be used.

Mechanical splices are acceptable if approved by the Owner.

5.21 Installation of Anchorage Items

Anchorage items, including bolts, dowels, and other similar devices, shall be of sufficient number and size and so located to ensure anchorage sufficient for the purpose intended. Anchorage items shall be checked against equipment base plates and Drawings prior to placing of concrete.

Anchor bolts shall be securely fastened in a template in the dimensions / orientation / spacings to match the structural steel base plate as shown on the Drawings. The template shall be secured to support the anchor bolts independent of the concrete being placed and cast in place during the concrete placement around the anchor bolts to ensure the proper bonding to the concrete.

In the event the anchor bolts are installed and require re-alignment and/or spacing correction, the Contractor shall contact the Owner and Engineer promptly for permission to proceed prior to any realignment methods. Anchor bolt projection shall be installed per the dimensions as shown on the detail drawings.

5.22 Placing

Water shall be removed from excavations before concrete is deposited. Hardened concrete, debris, and other foreign materials shall be removed from the interior of forms and from the inside of mixing and conveying equipment; reinforcement secured in position will be subject to inspection and approval by the Engineer. Runways for buggies or wheelbarrows shall not be supported on reinforcement or formwork

Concrete shall be conveyed from mixer to forms as rapidly as practicable without segregation or loss of ingredients.

Concrete having attained its initial set or having contained its water content for more than one and one half (1 ½) hours shall not be used in the work. Concrete shall not be dropped freely more than five feet (5') in unexposed work nor more than three feet (3') in exposed work. Unless approved by the Engineer, concrete shall be mixed and placed only when the temperature is at least 40°F; concrete footings shall be placed upon surfaces free from frost, ice, mud, loose or unsound rock, and other detrimental substances.

All concrete shall be thoroughly vibrated with appropriate vibrating equipment while concrete is being placed. Settling concrete with shovels only will not be accepted.

Concrete shall be deposited to the required thickness and finished monolithically to a smooth, level surface by floating and troweling.

5.23 Bonding and Grouting

Before depositing new concrete on or against concrete that has set, the existing surfaces shall be roughened and cleaned. Horizontal construction joints shall be given a brush coat of grout consisting of cement and fine aggregate in the same proportion as the concrete to be placed, following by approximately three inches (3") of concrete of regular mix, except that the proportion of coarse aggregate shall be reduced fifty percent (50%). Grout for setting bearing plates and other items shall be composed of equal parts of sand and Portland Cement.

5.24 Finishes of Concrete Other Than Floors and Slabs

Slight honeycomb and minor defects shall be patched with cement mortar made with one (1) part cement and two (2) parts fine aggregate. Exposed surfaces shall be given a rubbed finish. Fins and other projections shall be carefully removed, offsets leveled, and surface damage repaired. The surfaces then shall be rubbed with cement or carborundum bricks and water, leaving the surface uniformly smooth and clean. Projecting ends of all form ties shall be removed. The resulting recesses shall be cleaned, wetted, and filled with patching mortar.

No surface treatment will be required for buried or permanently submerged concrete not forming an integral part of a structure except that required to obtain the surface elevations or contours and surfaces free of laitance. The unformed surfaces of all other concrete shall be screeded and given an initial float finish, followed by additional floating and troweling where required.

Float finished surfaces shall be finished to provide a flat profile per ACI 347 Class C Finishing.

Screeding shall provide a concrete surface conforming to the proper elevation and contour with all aggregates completely embedded in adjacent mortar.

Surface irregularities in screeded surfaces shall be limited as required to produce finished surfaces within the tolerances specified. If no further finishing is required, surface irregularities shall not exceed ACI 347 Class C.

Screeded surfaces shall be given an initial float finish as soon as the concrete has stiffened sufficiently for proper working. Any piece of coarse aggregate that may be disturbed by the float or that causes a surface irregularity shall be removed and replaced with mortar. Initial floating shall produce a surface of uniform texture and appearance with no unnecessary working of the surface with the float.

The initial floating shall be followed with a second floating at the time of initial set. The

second floating shall produce a smooth, uniform, and workmanlike float finish of uniform texture and color. Unless additional finishing is specifically required, the completed finish for all unformed surfaces shall be a float finish as produced by the second floating.

Floating shall be performed with hand floats or suitable mechanical compactor floats. Any surfaces designated on the drawings to be troweled shall be steel trowel finished. Troweling shall be performed after the second floating when the surface has hardened sufficiently to prevent an excess of fines being drawn to the surface. Troweling shall produce a dense, smooth, uniform surface free from blemishes and trowel marks.

5.25 Clean-Up

All forms shall be completely removed. All materials, equipment, and rubbish shall be removed and the premises left in a neat condition.

6.0 Conduit Systems

A complete conduit system with associated couplings, connectors and fittings shall be provided for equipment interconnection. Rigid and IMC conduit shall be hot dipped, galvanized, or electro galvanized steel by Allied, General Electric, Republic, Triangle or Wheatland. Conduit, connectors, couplings, and fittings shall be UL listed and labeled. PVC conduit shall be Schedule 40, 90 degrees C rated. Associated couplings, connectors and fittings shall be steel as manufactured by Raco or equivalent.

- 6.1 Intermediate metal conduit (IMC) will be used as follows:
 - a. Above ground feeders.
- 6.2 Rigid steel conduit shall be used as follows:
 - a. Feeders exposed to severe mechanical damage
 - b. Elbows for emerging underground feeders
- 6.3 Polyvinyl chloride (PVC) shall be used for underground feeders, but rigid steel elbows shall be used for all 90-degree bends.
- 6.4 Liquid tight, flexible metal conduit shall be provided for termination at enclosures or skids which are subject to motion and vibration. Conduit shall be electrically continuous. Length shall not exceed 6 feet.
- 6.5 Conduits which enter from outside a structure or building shall be grouted to prevent entry of gases, vapors, insects, or rodents.
- 6.6 Conduits shall be mechanically and electrically continuous from cabinet to cabinet pull or junction boxes. A copper ground wire shall be installed as a jumper around flexible conduit. The jumper may be installed inside of flexible conduit or outside of conduit to assure continuity of ground.
- 6.7 One spare two (2) inch conduit shall be installed between the generator system control house and each generator and utility breaker (if applicable).
- 6.8 Any conduit for fiber optic cable shall not include any control or power wiring.

7.0 Site Work

- 7.1 The materialman shall be responsible for all site work/geotechnical engineering associated with the generator site.
- 7.2 The materialman shall be responsible (if required) for all permitting, erosion control plans, storm water retention plans etc. associated with the generator site.
- 7.3 Prior to beginning construction GUC will expose and remove the existing ground grid within the project limits.
- 7.4 Prior to site finish rocking site shall be in good condition, free of debris, and graded. Site shall be free of ruts, excavation, or other abnormal conditions because of site construction/equipment.

8.0 Materialman's Responsibilities

The responsibilities of the Materialman for the installation of the project are as follows:

- 8.1 Shipment to, unloading, and installation at the designated project site, all items required by these Specifications.
- 8.2 Site preparation for placement of the outdoor enclosures. If any temporary storage space is required, the Materialman is responsible for coordinating this with the Commission.
- 8.3 Obtaining and paying for all permits, licenses, certificates, inspections, etc., required for the site construction, both permanent and temporary. Permits that may be required by the North Carolina Utilities Commission or environmental regulatory agencies are excluded from this requirement.
- 8.4 Provide a temporary electrical lighting and power distribution system of adequate size to properly serve the project. Work shall be installed in a neat and safe manner in accordance with the National Electric Code Article 305 and OSHA.
- 8.5 Providing supervision of installation work done by subcontractors.
- 8.6 Furnishing all manufacturer-provided equipment documentation.

9.0 Responsibilities of Owner or Others

The Commission or Others will be responsible for the following items related to the project:

- 9.1 Owner shall furnish centerlines for foundations.
- 9.2 Coordinating schedules with the Materialman to arrange time for the Materialman to perform on-site responsibilities.
- 9.3 Furnishing and installing utility transformer pads.

References

Concrete repair work shall be performed in a manner that will not interfere with thorough curing of surrounding concrete. Mortar and concrete used in repair work shall be adequately cured and finished to match adjacent surfaces.

American Concrete Institute

1. ACI 117 – Specifications for Tolerances for Concrete Construction and Materials
2. ACI 318 – Building Code Requirements for Structural Concrete and Commentary
3. ACI 301 – Specifications for Structural Concrete
4. ACI 305R – Hot Weather Concreting
5. ACI 306R – Cold Weather Concreting
6. ACI 308R – Guide to Curing Concrete
7. ACI 336.1 – Specification for the Construction of Drilled Piers
8. ACI 347 – Guide to Formwork for Concrete
9. ACI 350 – Code Requirements for Environmental Engineering Concrete Structures and Commentary

ASTM International

1. ASTM A1064 – Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
2. ASTM C31 – Standard Practice for Making and Curing Concrete Test Specimens in the Field
3. ASTM C33 – Standard Specification for Concrete Aggregates
4. ASTM C39 – Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
5. ASTM C42 – Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
6. ASTM C94 – Standard Specification for Ready Mixed Concrete
7. ASTM C143 – Standard Test Method for Slump of Hydraulic-Cement Concrete
8. ASTM C150 – Standard Specification for Portland Cement
9. ASTM C171 – Standard Specification for Sheet Materials for Curing Concrete
10. ASTM C172 – Standard Practice for Sampling Freshly Mixed Concrete
11. ASTM C173 – Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
12. ASTM C231 – Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
13. ASTM C260 – Standard Specification for Air-Entraining Admixtures for Concrete
14. ASTM C403 – Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance
15. ASTM C494 – Standard Specification for Chemical Admixtures for Concrete
16. ASTM C1064 – Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
17. ASTM C1315 – Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete
18. ASTM D1751 – Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Type).

Appendix List

Appendix A: Concrete Detail
Appendix B: Typical Generator Pad Detail
Appendix C: Typical Conduit Detail
Appendix D: Site Plan

Vendor Name: _____

GREENVILLE UTILITIES COMMISSION

PROPOSAL FORM

QUOTATIONS SHOULD BE RECEIVED BY 2:30 PM ON August 26, 2025. Quotations can be e-mailed to haddocgc@guc.com or delivered to Cleve Haddock, CLGPO, Procurement Manager, at 401 South Greene Street, Greenville, N.C. 27834. Greenville Utilities reserves the right to reject any and all quotes that are not in GUC's best interest.

QTY.	DESCRIPTION	LEAD TIME	TOTAL
I	<u>10MW GENERATOR SITE FOUNDATIONS & CONDUITS</u>	_____	\$ _____

The undersigned bidder hereby declares that it has carefully examined the enclosed detailed specifications for furnishing GUC with the below listed items. The undersigned bidder further agrees, if this proposal is accepted within thirty (60) days from the date of the opening, to furnish any or all of the items upon the quoted price.

Complete and Check All Math: It is the responsibility of the Bidder to extend unit prices and supply a total for all item(s).

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It is certified that this proposal is made in good faith and without collusion or connection with any other person bidding on the same above listed items. It is also certified that this proposal is made in good faith and without collusion or connection with any GUC employee(s).

Certified check or cash for \$ NA or bid bond for \$ NA attached.

Firm Name: _____ Phone: (____) _____

Address: _____

City _____ State _____ Zip Code _____

Fax (____) _____ E-mail _____

Authorized Official _____ Title _____
Typed Name

Signature Date _____

**A copy of your proposal should be received no later than
August 26, 2025 at 2:30 pm (EDT).**

NO BIDS CONSIDERED UNLESS SUBMITTED ON THIS FORM(S)
(RETURN ONLY THIS FORM(S), E-VERIFY AND EXCEPTION FORM)

Letter of Compliance to E-Verify for Greenville Utilities Commission

1. I have submitted a bid for contract or desire to enter into a contract with the Greenville Utilities Commission;
2. As part of my duties and responsibilities pursuant to said bid and/or contract, I affirm that I am aware of and in compliance with the requirements of E-Verify, Article 2 of Chapter 64 of the North Carolina General Statutes, to include (mark which applies):
3. ____ After hiring an employee to work in the United States I verify the work authorization of said employee through E-Verify and retain the record of the verification of work authorization while the employee is employed and for one year thereafter; or
4. ____ I employ less than twenty-five (25) employees in the State of North Carolina.
5. As part of my duties and responsibilities pursuant to said bid and/or contract, I affirm that to the best of my knowledge and subcontractors employed as a part of this bid and/or contract, are in compliance with the requirements of E-Verify, Article 2 of Chapter 64 of the North Carolina General Statutes, to include (mark which applies):
6. ____ After hiring an employee to work in the United States the subcontractor verifies the work authorization of said employee through E-Verify and retains the record of the verification of work authorization while the employee is employed and for one year thereafter; or
7. ____ Employ less than twenty-five (25) employees in the State of North Carolina.
Specify subcontractor: _____

_____ (Company Name)

By: _____ (Typed Name)

_____ (Authorized Signatory)

_____ (Title)

_____ (Date)

GREENVILLE UTILITIES COMMISSION

GREENVILLE, NORTH CAROLINA

EXCEPTION FORM

Specifications for:

10MW Generator Site Foundations and Conduits

Bidder's Certification: This is to certify that it is our intent to furnish **Price, Equipment, Materials, Services, Etc.,** in absolute compliance with the bid specification except where expressly noted below.

Instructions: The following is a list of exceptions to the bidding documents and/or specifications pertaining to the furnishing of the requested materials. Bidders shall identify each exception by specification page and paragraph number on this form. The omission of exception assumes complete compliance with the Specifications.

<u>Page/Paragraph #</u>	<u>Exception/Variation</u>
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Firm Represented:

Typed Name:

Authorized Signature of Certification:

Date:

Special Instructions to Bidders

City of Greenville/Greenville Utilities Commission Minority and/or Women Business Enterprise (M/WBE) Program

GUC 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/or Women Business Enterprise Program**

\$100,000 and Construction Guidelines for M/WBE 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 M/WBE program by making Good Faith Efforts to achieve the following aspiration goals for participation.

	GUC	
	MBE	WBE
Construction This Goal includes Construction Manager at Risk	7%	4%

Bidders shall submit M/WBE information with their bids on the forms provided. This information will be subject to verification by GUC prior to contract award. **As of July 1, 2009, contractors, subcontractors, suppliers, service providers, or M/WBE members of joint ventures intended to satisfy GUC M/WBE goals shall be certified by the NC Office of Historically Underutilized Businesses (NC HUB) only.** Firms qualifying as "WBE" for GUC's goals must be designated as a "women-owned business" by the HUB Office. Firms qualifying as "MBE" for GUC'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. A complete database of NC HUB certified firms may be found at <http://www.doa.nc.gov/hun/>. An internal database of firms who have expressed interest to do business with the City and GUC is available at www.greenvillencmwbe.org. However, the HUB status of these firms must be verified by the HUB database. GUC shall accept NCDOT certified firms on federally funded projects only. Please note: A contractor may utilize any firm desired. However, for participation purposes, all M/WBE vendors who wish to do business as a minority, or a female must be certified by NC HUB.

The Bidder shall make good faith efforts to encourage participation of M/WBEs 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 M/WBE goal, they should document their good faith efforts and be prepared to submit this information, if requested.

The M/WBE's listed by the Contractor on the **Identification of Minority/Women Business Participation** which are determined by the GUC to be certified shall perform the work and supply the materials for which they are listed unless the Contractors receive prior authorization from the GUC 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.

The Contractor shall enter into and supply copies of fully executed subcontracts with each M/WBE 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 Bidders 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 M/WBE subcontractors.**

*****If a change is needed in M/WBE Participation, submit a Request to Change M/WBE Participation Form. Good Faith Efforts to substitute with another M/WBE 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 GUC 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 GUC 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 GUC whether to terminate the contract for breach or not. In determining whether a contractor has made Good Faith Efforts, the GUC will evaluate all efforts made by the Contractor and will determine compliance regarding quantity, intensity, and results of these efforts.

Identification of Minority/Women Business Participation

I, _____,
(Name of Bidder)

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

Firm Name, Address and Phone #	Work Type	M/WBE Category

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

If you will not be utilizing M/WBE contractors, please certify by entering "0"

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

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

Greenville Utilities Commission AFFIDAVIT A – Listing of Good Faith Efforts

County of _____

Affidavit of _____

(Name of Bidder)

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 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 _____

Greenville Utilities Commission - AFFIDAVIT B - Intent to Perform Contract with Own Workforce

County of _____

Affidavit of _____
(Name of Bidder)

In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type of 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 _____

Greenville Utilities Commission – AFFIDAVIT C – Portion of the Work to be Performed by M/WBE 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 M/WBE businesses as defined in GS143-128.2(g) and the COG/GUC M/WBE Plan sec. III is equal to or greater than 11% of the bidder's 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.

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

(Project Name)
Project ID# _____ 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 a construction subcontractors, vendors, suppliers, or providers of professional services. Such work will be subcontracted to the following firms listed below.

Name and Phone Number	*M/WBE Category	Work Description	Dollar Value

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

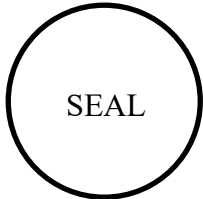
Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with M/WBE Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

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 _____

Greenville Utilities Commission – 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 11% 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 Name)
Project ID# _____ 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 a construction subcontractors, vendors, suppliers, or providers of professional services. Such work will be subcontracted to the following firms listed below.

Name and Phone Number	*M/WBE Category	Work Description	Dollar Value

*M/WBE categories: Black, African American (**B**), Hispanic, 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, responsive sub-bidder, copies of quotes received from all firms submitting quotes for that 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

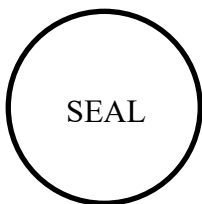
Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with M/WBE Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

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
M/WBE Subcontractor Performance

Please submit this form or executed subcontracts with M/WBE 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 M/WBE status of the undersigned is certified by 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 M/WBE Firm)

(Name & Title of Authorized Representative of M/WBE)

(Signature of Authorized Representative of M/WBE)

REQUEST TO CHANGE M/WBE 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 MBW/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 M/WBE 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 M/WBE 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 __ N

Date _____

Signature _____

Proof of Payment Certification
M/WBE Contractors, Suppliers, Service Providers

Project Name: _____

Pay Application No. _____

Prime Contractor: _____

Purchase Order No. _____

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

Requested Payment Amount for this Period: \$ _____

Is this the final payment? ___ Yes ___ No

Firm Name	*M/WBE Category	Total Amount Paid from this Pay Request	Total Contract Amount (including changes)	Total Amount Remaining

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

Date: _____

Certified By: _____

Name

Title

Signature

SECTION III

TERMS AND CONDITIONS FOR SERVICES OR THE PURCHASE OF

APPARATUS, SUPPLIES, MATERIALS, OR EQUIPMENT

NOT SUBJECT TO A FORMAL BID

These Terms and Conditions, made and entered into on this purchase order date and between GREENVILLE UTILITIES COMMISSION OF THE CITY OF GREENVILLE, PITT COUNTY, NORTH CAROLINA, with one of its principal offices and places of business at 401 S. Greene Street, Post Office Box 1847, Greenville, Pitt County, North Carolina 27835-1847, hereinafter referred to as "GUC" and the vendor as identified on the purchase order, hereinafter referred to as "PROVIDER";

1.0 TAXES

No taxes shall be included in any bid prices. GUC is exempt from Federal Excise Tax. GUC is not exempt from North Carolina state sales and use tax or, if applicable, Pitt County sales and use tax. Such taxes shall be shown as a separate item on the invoice.

2.0 INVOICES

It is understood and agreed that orders will be shipped at the established contract prices and quantities in effect on dates orders are placed. Invoicing at variance with this provision may subject the contract to cancellation. Applicable North Carolina sales tax shall be invoiced as a separate line item. All invoices must bear the GUC purchase order number. Mail all invoices to Greenville Utilities Commission, Finance Department, P. O. Box 1847, Greenville, N.C. 27835-1847.

3.0 PAYMENT TERMS

Payments for apparatus, supplies, materials, equipment or services will be made after the receipt and acceptance and after submission of a proper invoice. GUC's normal payment policy is thirty (30) days. GUC will not be responsible for any goods delivered without a purchase order having been issued. Payment will be made in U. S. currency only.

4.0 CONDITION AND PACKAGING

It is understood and agreed that any item offered or shipped shall be new and in first class condition, that all containers shall be new and suitable for storage or shipment, and that prices include standard commercial packaging.

5.0 SPECIFICATIONS

Any deviation from specifications must be clearly pointed out, otherwise, it will be considered that items offered are in strict compliance with specifications, and the Provider will be held

responsible. Deviations must be explained in detail. **The Provider shall not construe this paragraph as inviting deviation or implying that any deviation will be acceptable.**

6.0 AWARD OF CONTRACT

All purchases will be based on the lowest responsible, responsive offer that is most advantageous to GUC as determined upon consideration of such factors as prices offered, the quality of the article(s) offered, the general reputation and performance capabilities of the Provider, substantial conformity with the specifications the suitability of the article(s) for the intended use, the related materials needed, the date(s) of delivery and performance, and such other factors deemed by GUC to be pertinent or peculiar to the purchase in question.

Acceptance of the order includes acceptance of all terms, conditions, prices, delivery instructions, and specifications as shown on this set of Terms and Conditions and in this order or attached to and made a part of this order.

The conditions of this order cannot be modified except by written amendment in the form of "Amended Purchase Order," which has been approved by GUC's Purchasing Department.

In the event of a Provider's failure to deliver or perform as specified, GUC reserves the right to cancel the order or any part thereof, without prejudice to GUC's other rights. The Provider agrees that GUC may return part of or all of any shipment at Provider's expense. GUC may charge the Provider with all reasonable expenses resulting from such failure to deliver or perform.

7.0 MEDIATION/BINDING ARBITRATION

In the event of any dispute between the Parties, the Parties agree to submit any dispute to non-binding mediation before a mutually agreeable Mediator prior to initiating litigation. If the Parties are unable to agree upon a Mediator within thirty (30) days after demand therefore, either Party may petition a Court of competent jurisdiction for the designation of a qualified Mediator for these purposes. Each Party shall bear its own costs and expenses of participating in the mediation (including, without limitation, reasonable attorneys' fees), and each Party shall bear one-half (1/2) of the costs and expenses of the Mediator. Unless otherwise agreed, the Parties will hold the mediation in Greenville, North Carolina. The matters discussed or revealed in the mediation session shall not be disclosed in any subsequent litigation.

In the event the matter is not resolved in mediation, either Party may request arbitration. The parties shall jointly select an Arbitrator, and shall be bound by the decision of the Arbitrator with respect to any dispute between the parties with respect to this Agreement. If the parties are unable to mutually agree upon an Arbitrator, the Parties shall each select an Arbitrator, and the two Arbitrators so selected shall select a third Arbitrator, and the decision of the majority of the Arbitrators shall be conclusive and binding upon the Parties. The Parties at all times agree to equally split the costs of any Arbitrator(s) selected in an effort to resolve the dispute between the Parties. Any party desiring to resolve a dispute under the terms of this Agreement shall notify the other Party in writing, and the Parties shall seek to agree upon a mutually agreed-upon Arbitrator within a period of ten (10) days from the date of such written demand. If the

Parties are unable to agree within such ten (10) day period, the Parties shall each select an Arbitrator, and the two (2) Arbitrators so selected shall select a third Arbitrator within fifteen (15) days from the date of the written demand for arbitration, and a decision shall be rendered by the Arbitrator(s) so selected within five (5) days after such Arbitrator(s) is selected.

8.0 GOVERNMENT RESTRICTIONS

In the event any Governmental restrictions may be imposed which would necessitate alteration of the material, quality, workmanship, or performance of the items offered on this bid prior to their delivery, it shall be the responsibility of the successful Provider to notify the GUC Purchasing Procurement Manager, at once, indicating in its letter the specific regulation which required such alterations. GUC reserves the right to accept any such alterations, including any price adjustments occasioned thereby, or, in the sole discretion of GUC, to cancel the contract.

9.0 INSURANCE

9.1 **Coverage** – The Provider at its sole cost and expense shall provide commercial insurance of such type and with the following coverage and limits:

9.1.1 **Worker's Compensation** – The Provider shall provide and maintain Worker's Compensation Insurance, as required by the laws of North Carolina, as well as employer's liability coverage with minimum limits of \$1,000,000 each accident, covering all Provider's employees who are engaged in any work under the contract. If any work is sublet, the Provider shall require the subcontractor to provide the same coverage for any of its employees engaged in any work under the contract.

9.1.2 **General Liability** – Commercial Liability Coverage written on an "occurrence" basis in the minimum amount of \$1,000,000 per occurrence.

9.1.3 **Automobile** – Automobile Liability Insurance, to include coverage for all owned, hired, and non-owned vehicles used in connection with the contract with a minimum combined single limit of \$1,000,000 per accident.

9.1.4 **Cyber** – The Vendor shall maintain Cyber Liability Insurance with limits of \$3,000,000 per occurrence, providing protection against liability for: (1) privacy breaches (including liability arising from the loss or disclosure of confidential information no matter how it occurs); (2) system breach; (3) denial or loss of service; (4) introduction, implantation, or spread of malicious software code; and (5) unauthorized access to or use of computer systems. Cyber Liability Insurance shall not include any exclusion or restriction for unencrypted portable devices or other media. Vendor shall provide evidence of continuation or renewal for a period of two (2) years following termination of the Agreement.

9.2 **Requirements** - Providing and maintaining adequate insurance coverage is a material obligation of the Provider. All such insurance shall meet all laws of the State of North Carolina. Such insurance coverage shall be obtained from companies that are authorized to provide such coverage and that are authorized to do business in North

Carolina by the Commissioner of Insurance. The Provider shall at all times comply with the terms of such insurance policies and all requirements of the insurer under any of such insurance policies, except as they may conflict with existing North Carolina laws or this contract. The limits of coverage under each insurance policy maintained by the Provider shall not be interpreted as limiting the Provider's liability and obligations under the contract. It is agreed that the insurance carrier will provide 30 day written notice of cancellation by regular mail to the GUC's Procurement Manager. Any waiver of insurance must be approved by the Procurement Manager.

Waiver approved: _____

Procurement Manager

10.0 PATENTS AND COPYRIGHTS

The Provider shall hold and save GUC, its officers, agents, and employees, harmless from liability of any kind, including costs and expenses, including reasonable attorney fees, on account of any copyrighted articles or any patented or unpatented invention, device or appliance manufactured or used in the performance of this contract.

11.0 PATENT AND COPYRIGHT INDEMNITY

The Provider will defend or settle, at its own expense, any action brought against GUC to the extent that it is based on a claim that the product(s) provided pursuant to this agreement infringe any U.S. copyright or patent; and will pay those costs, damages, and attorney fees finally awarded against GUC in any such action attributable to any such claim, but such defense, settlements, and payments are conditioned on the following: (1) that Provider shall be notified promptly in writing by GUC of any such claim; (2) that Provider shall have sole control of the defense of any action on such claim and of all negotiations for its settlement or compromise; (3) that GUC shall cooperate with Provider in a reasonable way to facilitate the settlement of defense of such claim; (4) that such claim does not arise from GUC modifications not authorized by the Provider or from the use of combination of products provided by the Provider with products provided by GUC or by others; and (5) should such product(s) become, or in the Provider's opinion likely to become, the subject of such claim of infringement, then GUC shall permit Provider, at Provider's option and expense, either to procure for GUC the right to continue using the product(s), or replace or modify the same so that it becomes non-infringing and performs in a substantially similar manner to the original product.

12.0 ASSIGNMENT

No assignment of the Provider's obligations or the Provider's right to receive payment hereunder shall be permitted without the express written consent of GUC, provided however, upon written request approved by the GUC Purchasing Procurement Manager, solely as a convenience to the Provider, GUC may:

- Forward the Provider's payment check directly to any person or entity designated by the Provider, and

- Include any person or entity designated by Provider as a joint payee on the Provider's payment check.
- In no event shall such approval and action obligate GUC to anyone other than the Provider, and the Provider shall remain responsible for fulfillment of all contract obligations.

13.0 ACCESS TO PERSON AND RECORDS

GUC shall have reasonable access to persons and records of Provider as a result of all contracts entered into by GUC.

14.0 INSPECTION AT BIDDER'S SITE

GUC reserves the right to inspect, at a reasonable time, the item, plant, or other facilities of a prospective Provider prior to contract award and during the contract term as necessary for GUC's determination that such item, plant, or other facilities conform with the specifications/requirements and are adequate and suitable for the proper and effective performance of the contract. Provider may limit GUC's access to restricted areas.

15.0 AVAILABILITY OF FUNDS

Any and all payments of compensation of this specific transaction and any continuation or any renewal or extension are dependent upon and subject to the allocation of GUC funds for the purpose set forth in this Agreement.

16.0 GOVERNING LAWS

All contracts, transactions, or agreements are made under and shall be governed by and construed in accordance with the laws of the State of North Carolina.

17.0 ADMINISTRATIVE CODE

Quotes, bids, proposals, and awards are subject to applicable provisions of the North Carolina Statutes, Rules, Regulations, or Administrative Codes.

18.0 CLARIFICATIONS/INTERPRETATIONS

Any and all questions regarding these Terms and Conditions must be addressed to the GUC Purchasing Procurement Manager. Do not contact the user directly. **These Terms and Conditions are a complete statement of the parties' agreement and may only be modified in writing signed by Provider and GUC's Procurement Manager.**

19.0 SITUS

The place of all contracts, transactions, agreements, their situs and forum, shall be North Carolina, where all matters, whether in contract or tort, relating to the validity, construction, interpretation, and enforcement shall be determined.

20.0 TERMINATION OF AGREEMENT

GUC or Provider may terminate this Agreement for just cause at any time. Provider will be paid for all labor and expenses incurred as of the termination date. Just cause shall be based on reasonable grounds, and there must be a fair and honest cause or reason for such action. The causes for termination, include, but are not limited to: (1) Provider's failure to comply with the services in this agreement, (2) Provider's failure to perform in accordance with this Agreement, (3) Provider's disregard of laws and regulations related to this Agreement, (4) Provider's violation of the provisions of the Agreement, (5) Provider's failure to perform in accordance with all project requirements, or (6) Provider's failure to work in accordance with GUC's policies and/or procedures.

21.0 DELIVERY

Time is of the essence with respect to all deliveries under this Agreement.

Delivery of all equipment, materials, or supplies shall be made Free on Board (FOB) GUC Warehouse, 701 Utility Way, Greenville, North Carolina 27834, unless otherwise specified. The agreed price for such equipment, materials, or supplies shall include all costs of delivery and ownership, and risks of loss shall not be transferred from Provider to GUC until express written acceptance of delivery and inspection by GUC. Delivery hours are between 8:00 AM and 4:30 PM Monday-Friday only. **GUC's purchase order number is to be shown on the packing slip or any related documents.** GUC reserves the right to refuse or return any delivery with no purchase order number or which is damaged. GUC will not be charged a restocking fee for any delivery which is refused or returned.

22.0 INDEMNITY PROVISION

Provider agrees to indemnify and save GREENVILLE UTILITIES COMMISSION of the City of Greenville, Pitt County, North Carolina, and the City of Greenville, North Carolina, its co-owners, joint venturers, agents, employees, and insurance carriers harmless from any and all Third Party claims, actions, costs, expenses, including reasonable attorney fees, judgments, or other damages resulting from injury to any person (including injury resulting in death), or damage (including loss or destruction) to third party tangible property arising out of the negligent performance of the terms of this Contract by Provider; including, but not limited to, Provider's employees, agents, subcontractors, and others designated by Provider to perform work or services in, about, or attendant to, the work and services under the terms of this Contract. Provider shall not be held responsible for any losses, expenses, claims, subrogations, actions, costs, judgments, or other damages, directly and proximately caused by the negligence of Greenville Utilities Commission of the City of Greenville, Pitt County, North Carolina. Insurance covering this indemnity agreement by Provider in favor of Greenville Utilities Commission of the City of Greenville, Pitt County, North Carolina, and the City of Greenville, North Carolina, shall be provided by Provider.

23.0 FORCE MAJEURE

Neither party shall be considered in default in the performance of its obligations hereunder to the extent that the performance of any such obligation is prevented or delayed by any cause,

existing or future, which is beyond the reasonable control of such party. In any such event of force majeure, the parties shall advise each other of such event, and the parties shall negotiate an equitable adjustment to their respective obligations under this Agreement.

24.0 STANDARD OF CARE

The Provider hereby agrees to abide by the standard of care generally accepted in the engineering profession in the performance of services under this contract.

25.0 INTEGRATED CONTRACT

These Terms and Conditions represent the entire contract between the Parties. No verbal or other written agreement(s) shall be held to vary the provisions of this Agreement.

26.0 CONTRACT PROVISIONS

Each of the provisions of these Terms and Conditions shall apply to the full extent permitted by law, and the invalidity in whole or in part of any provision shall not affect the remainder of such provision or any other provisions.

27.0 E-VERIFY

E-Verify - I understand that E-Verify is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-25 et seq. I am aware of and in compliance with the requirements of E-Verify and Article 2 of Chapter 64 of the North Carolina General Statutes. To the best of my knowledge, any subcontractors employed by me as a part of this contract are in compliance with the requirements of E-Verify and Article 2 of Chapter 64 of the North Carolina General Statutes.

28.0 AFFIRMATIVE ACTION

The Provider will take affirmative action in complying with all Federal and State requirements concerning fair employment and employment of the handicapped, and concerning the treatment of all employees, without discrimination by reason of race, color, religion, sex, national origin, or physical handicap.

29.0 IRAN DIVESTMENT ACT CERTIFICATION

By acceptance of this purchase order, Vendor/Contractor certifies that, as of the date of the purchase order or contract, it is not on the Final Divestment List as created by the State Treasurer pursuant to N.C.G.S. § 143-6A-4. In compliance with the requirements of the Iran Divestment Act and N.C.G.S. § 143C-6A-5(b), Vendor/Contractor shall not utilize in the performance of the contract any subcontractor that is identified on the Final Divestment List.

30.0 UNIFORM GUIDANCE

Contracts funded with federal grant or loan funds must be procured in a manner that conforms with all applicable federal laws, policies, and standards, including those under the Uniform Guidance (2 C.F.R. Part 200).

31.0 SAFETY STATEMENTS

Safety Culture Commitment Statement:

At Greenville Utilities, we are committed to a culture of safety that prioritizes the well-being of our employees, contractors, and the communities we serve.

We believe that everyone deserves to work in a safe environment, and we are dedicated to fostering a culture where **safety is a core value, not just a priority.**

Here's what that means to us:

- **Employee and Contractor Safety:** We are committed to providing a safe work environment for all employees and contractors. We will invest in safety training, resources, and equipment to prevent accidents and injuries.
- **Open Communication:** We encourage open and honest communication about safety concerns. We believe everyone has a right and responsibility to speak up about unsafe work practices and potential hazards.
- **Continuous Improvement:** We are committed to continuous improvement in safety performance. We will learn from incidents and near misses, and we will actively seek ways to improve our safety processes and procedures.
- **Accountability:** We hold ourselves and our contractors accountable for safe work practices. This includes providing clear safety expectations, enforcing safety rules, and recognizing safe behavior.
- **Collaboration:** We believe in working collaboratively with employees, contractors, and regulatory agencies to achieve the highest level of safety.

Our commitment to safety extends beyond our employees. We work closely with our contractors to ensure they share our safety values. We expect them to implement robust safety programs, train their workers thoroughly, and adhere to all safety regulations.

We are confident that by working together, we can create a culture of safety where everyone goes home safe and healthy every day.

This commitment statement is a public declaration of our unwavering dedication to safety. We will continue to strive for zero incidents while promoting a positive safety culture that prioritizes the well-being of everyone involved in our utility operations.

Safety Management System Commitment Statement:

At Greenville Utilities, we are unwavering in our commitment to delivering safe and reliable utility service through a robust Safety Management System (SMS). This system forms the foundation of our safety culture, ensuring the well-being of our employees, contractors, and the communities we serve.

Our SMS commitment emphasizes:

- **Zero Incidents:** We believe all incidents are preventable. We strive for zero incidents by proactively managing risks and continuously improving our safety practices.
- **Empowered Workforce:** We foster a culture where safety is everyone's responsibility. This includes providing comprehensive safety training for both employees and contractors, empowering them to identify and report hazards.

- **Data-Driven Decisions:** We utilize data from inspections, incident investigations, and performance metrics to make informed decisions for risk mitigation and continuous improvement of our SMS.
- **Leadership Engagement:** Our leadership team actively demonstrates a commitment to safety by participating in safety reviews, audits, and promoting safety as a core value.
- **Contractor Collaboration:** We extend our safety commitment to our contractors. We require contractors working on our system to adhere to SMS principles, participate in safety briefings, and maintain strong safety programs within their own organizations.
- **Transparent Communication:** We believe in open communication about safety. We encourage employees and contractors to report concerns without fear of reprisal. We also maintain transparent communication with stakeholders about SMS performance.

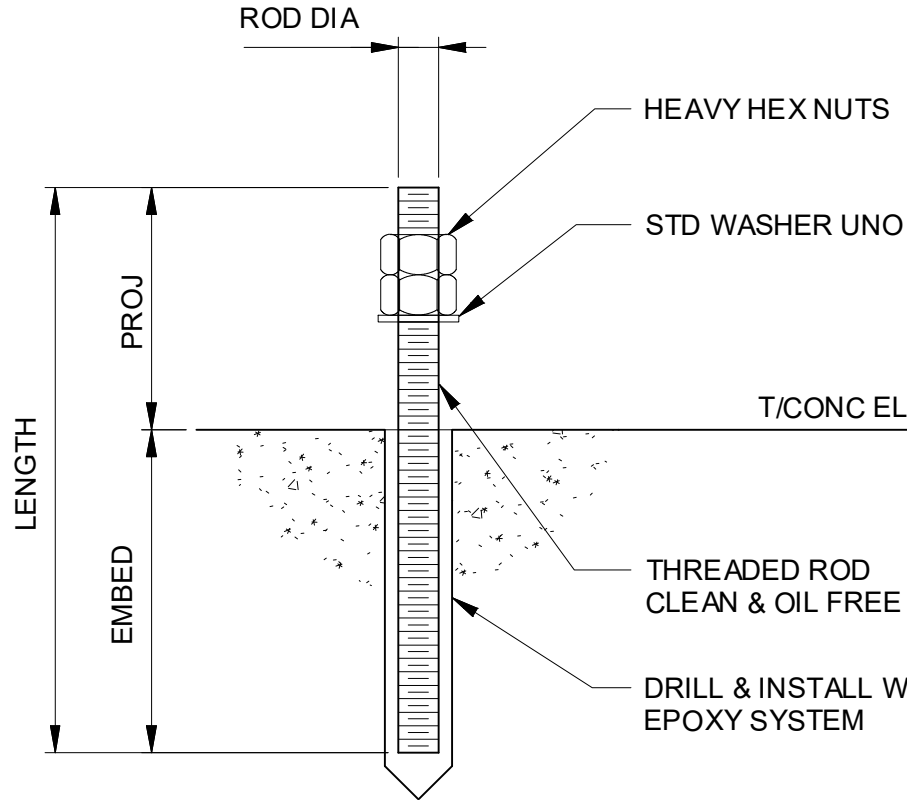
This SMS commitment is a continuous journey, not a destination. We are dedicated to regularly reviewing and updating our system to reflect best practices and emerging technologies. Through continuous improvement and a commitment to a positive safety culture, we aim to remain an industry leader in safe and reliable utility service.

32.0 NOTICES

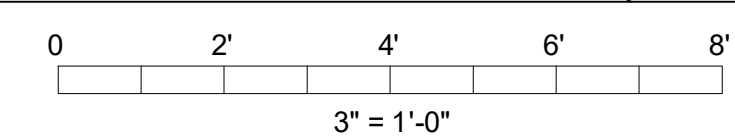
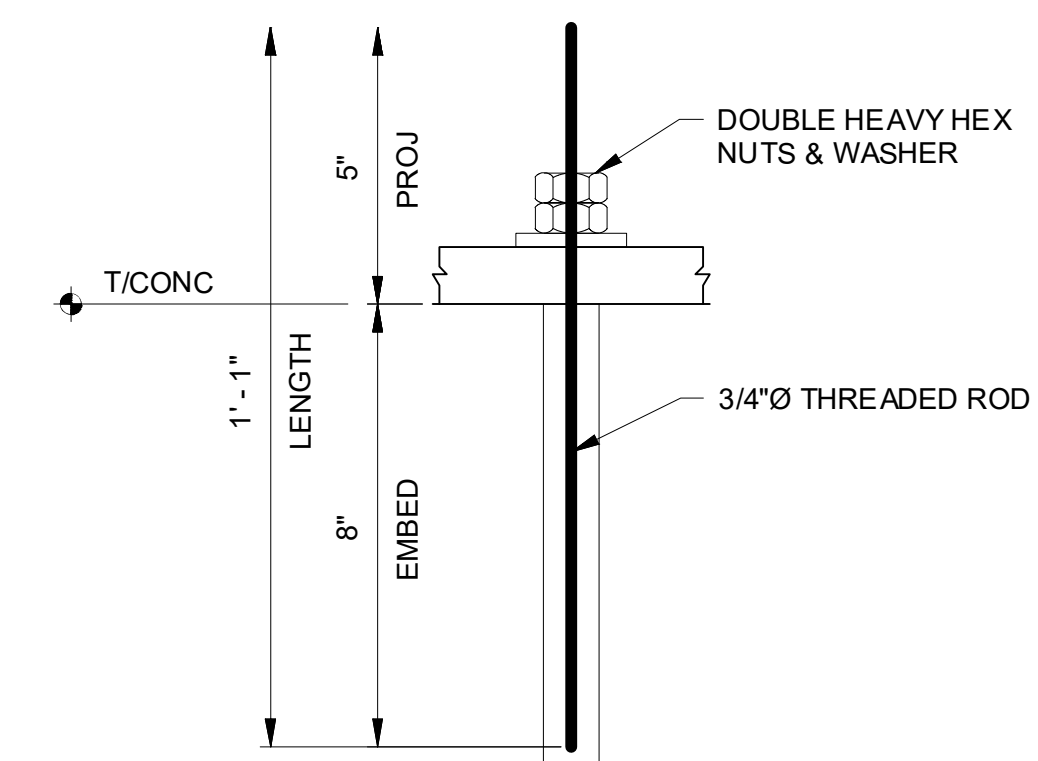
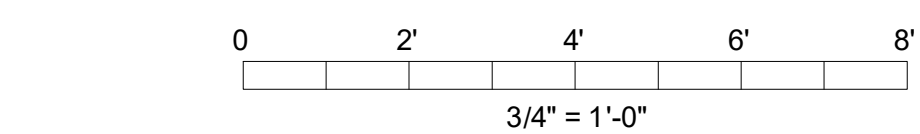
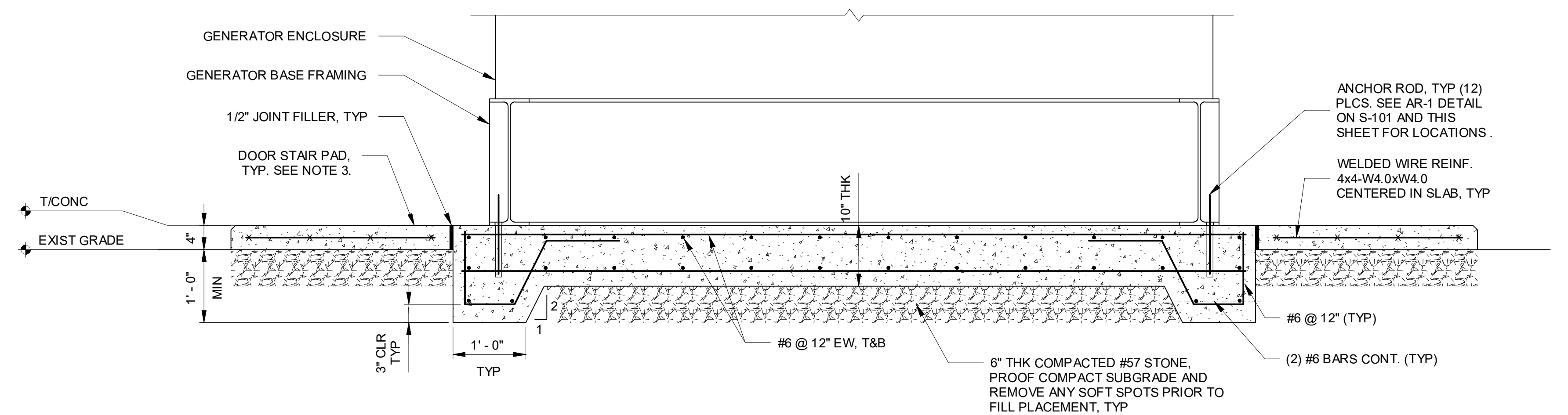
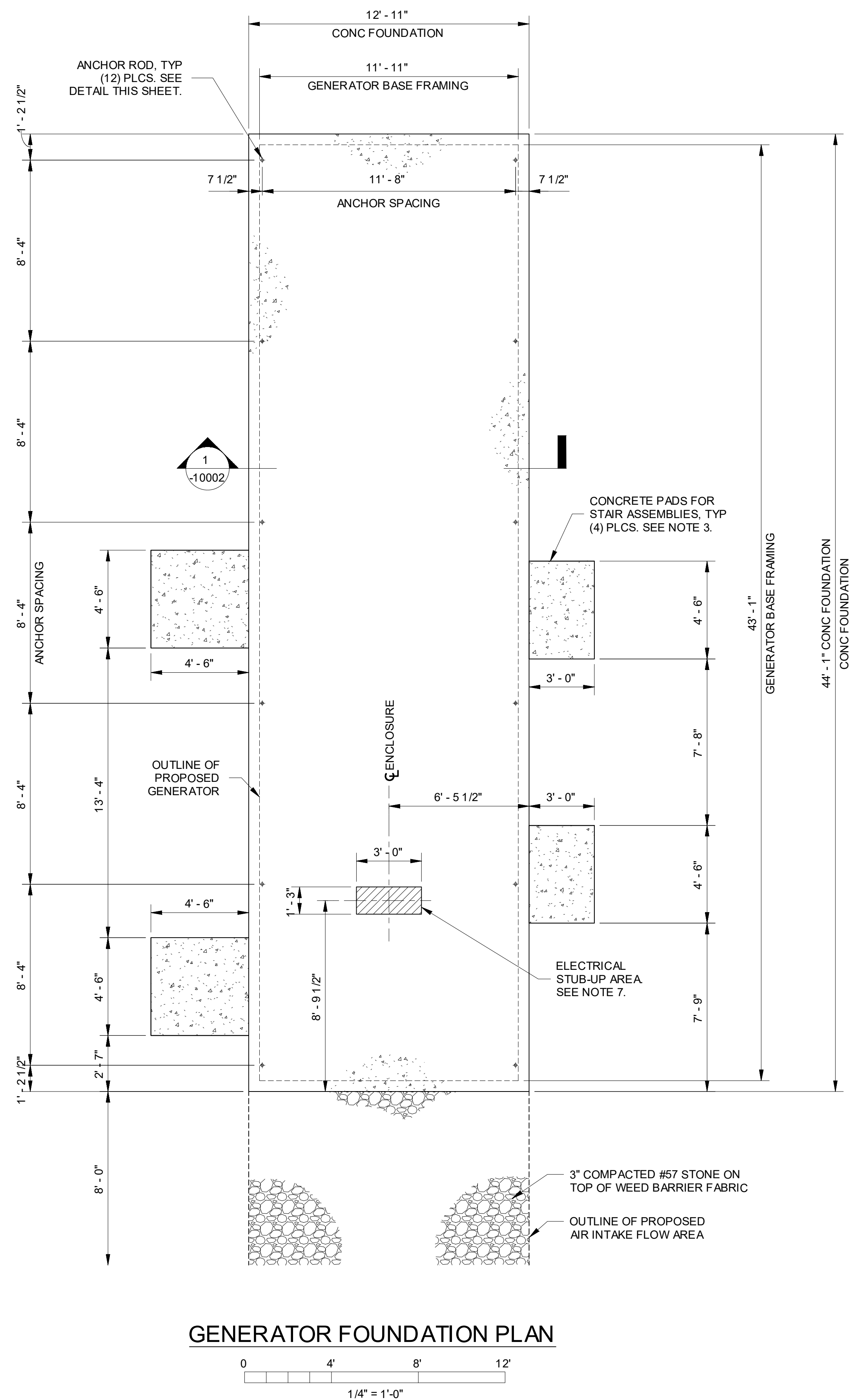
Notices to the Parties should be sent to the addresses specified on the first page of these Terms and Conditions.

Cleve Haddock, Lifetime CLGPO
Procurement Manager
Greenville Utilities Commission
401 South Greene Street
Greenville, N.C. 27834

Vendor Specified on Page 1 of Section III when awarded.

CONCRETE NOTES:		FOUNDATION NOTES:	
1. 2018 NORTH CAROLINA STATE BUILDING CODE (BASED ON 2015 INTERNATIONAL BUILDING CODE) REFERENCED STANDARDS AND CODES: A. ACI 318-14 B. ACI 301-10 C. ASCE 7-10		1. FOUNDATION DESIGN IS BASED ON THE PROJECT GEOTECHNICAL REPORT PREPARED BY TITAN ATLANTIC GROUP, TITLED "GREENVILLE WEST AND MACGREGOR DOWNS SUBSTATIONS", PROJECT NUMBER 019907-80, DATED DECEMBER 6, 2001. UNLESS NOTED OTHERWISE, FOUNDATION AND EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT.	
2. CONCRETE MIX SHALL CONFORM TO ASTM C94, "READY-MIXED CONCRETE." CONCRETE SHALL HAVE NORMAL WEIGHT COARSE AGGREGATES AND A 28 DAY MINIMUM COMPRESSIVE STRENGTH OF $f_c = 4,000$ PSI WITH A DENSITY OF 145 PCF. THE MAXIMUM WATER-CEMENT RATIO SHALL BE 0.45. UNLESS PROOF OF SATISFACTORY PAST PERFORMANCE IS PROVIDED.		2. IF UNSUITABLE MATERIAL IS ENCOUNTERED WHERE NEW FOUNDATIONS ARE TO BE INSTALLED, REMOVE ALL UNSUITABLE MATERIAL AND PLACE SPECIFIED COMPACTED MATERIAL TO THE UNDERSIDE OF THE STRUCTURAL FILL INDICATED ON THE CONTRACT DRAWINGS. REMOVAL OF UNSUITABLE MATERIAL, PLACING AND COMPACTING OF STRUCTURAL FILL, AND TESTING OF COMPACTED STRUCTURAL FILL SHALL BE PERFORMED BY THE GENERAL CONTRACTOR UNDER THE OBSERVATION OF A PROFESSIONAL GEOTECHNICAL ENGINEER.	
3. CEMENT SHALL BE TYPE II PORTLAND CEMENT CONFORMING TO ASTM C150, "PORTLAND CEMENT."		3. FOUNDATIONS SHALL BE FORMED ON PROPERLY COMPACTED STRUCTURAL FILL WITH A NET ALLOWABLE SOIL BEARING CAPACITY OF 2,000 PSF.	
4. DURING HOT AND COLD WEATHER SUPPLY AND CONSTRUCTION OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 305R AND 306R, RESPECTIVELY. AS A GUIDE WHEN CONCRETE TEMPERATURES APPROACH 80 DEGREES F, OR 40 DEGREES F, THE ACI REQUIREMENTS MAY ALREADY BE IN EFFECT.		4. COMPACTED STRUCTURAL FILL SHALL BE PLACED IN MAXIMUM 6" THICK HORIZONTAL, LOOSE LIFTS. FILL SHALL BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY PER ASTM D698.	
5. NORMAL WEIGHT AGGREGATES SHALL CONFORM TO ASTM C33, "CONCRETE AGGREGATES," MINIMUM SIZE OF COARSE AGGREGATE SHALL BE 3/4", THE MAXIMUM SIZE OF COARSE AGGREGATE SHALL COMPLY WITH ACI 318 MAX AGGREGATE SIZE REQUIREMENTS. IN NO CASE SHALL MAXIMUM AGGREGATE SIZE SHALL BE LARGER THAN 1 1/2"		5. FOOTINGS SHALL NOT BE PLACED INTO OR AGAINST SUBGRADE CONTAINING FREE WATER, FROST, ICE, OR LOOSE MATERIAL.	
6. ALL CONCRETE SHALL BE AIR-ENTRAINED AND CONFORM TO ASTM C260, "AIR-ENTRAINING ADMIXTURES FOR CONCRETE." THE TOTAL AIR CONTENT FOR AIR-ENTRAINED CONCRETE SHALL BE AS FOLLOWS AND WITH A TOLERANCE OF $\pm 1.5\%$. A. NOMINAL MAX AGGREGATE SIZE AIR CONTENT % BY VOLUME a. 3/8" 7.5 b. 1/2" 7.0 c. 3/4" 6.0 d. 1" 6.0 e. 1 1/2" 5.5		6. ALL LOOSENED SOIL AT THE BASE OF EXCAVATIONS SHALL BE REMOVED BY HAND.	
7. PROPORTION AND DESIGN MIXES TO RESULT IN CONCRETE SLUMP AT POINT OF PLACEMENT AS FOLLOWS: A. RAMPS, SLABS, AND SLOPING SURFACES: NOT MORE THAN 3" B. FOUNDATION SYSTEMS: NOT LESS THAN 1" AND NOT MORE THAN 3" C. CONCRETE CONTAINING HIGH-RANGE WATER-REDUCING ADMIXTURE (SUPER PLASTICIZER): NOT MORE THAN 8" AFTER ADDING ADMIXTURE TO SITE VERIFIED SLUMP CONCRETE NOTED ABOVE		7. IF UNDERMINING OCCURS OR UNUSUAL SOIL CONDITIONS ARE FOUND, THE OWNER SHALL BE NOTIFIED IMMEDIATELY. DIRECTION AS TO THE PROPER WAY TO REMEDIATE THE CONDITION MUST BE PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION PROCEEDING.	
8. NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE.		8. THE CONTRACTOR SHALL OBTAIN THE OWNER'S PERMISSION BEFORE ENCASING OR BACKFILLING AROUND ANY EXISTING UNDERGROUND STRUCTURE, PIPING, ELECTRICAL, OR OTHER UNDERGROUND WORK.	
9. CHAMFER ALL EXPOSED EXTERNAL CORNERS OF CONCRETE WITH 3/4"x45° CHAMFER UNLESS NOTED OTHERWISE.		9. THE CONTRACTOR SHALL DEWATER EXCAVATIONS AS NECESSARY PRIOR TO PLACING CONCRETE.	
10. FORM ACCURACY TOLERANCES SHALL BE $\pm 1/4"$ IN PLAN AND ELEVATION EXCEPT THAT ELEVATIONS OF TOPS OF SLABS AND PIERS SHALL BE ACCURATE TO $\pm 1/8"$. ALL EMBEDDED METAL (ANCHOR RODS, INSERTS, ETC.) SHALL BE SET TRUE TO $\pm 1/8"$ OF POSITION SHOWN ON THE CONTRACT DRAWINGS.		10. SLABS ON GRADE SHALL BE PLACED ON A 6" LAYER OF #57 STONE. REINFORCEMENT FOR SLABS ON GRADE SHALL BE SUPPORTED BY SAND CHAIRS.	
11. FINISHES SHALL BE AS FOLLOWS: A. CONCRETE SHALL RECEIVE A TROWELED FINISH. B. SLABS: SCREED TO PROPER ELEVATION WITH INITIAL FLOATING AS SOON AS WORKABLE. AT TIME OF INITIAL SET, BROOM FINISH.		11. IF PLACEMENT OF CONCRETE CANNOT BE CONDUCTED ON THE SAME DAY AS FOUNDATION EXCAVATION, A 3" LEAN CONCRETE MUD MAT SHALL BE PLACED ON EXPOSED BEARING SOILS.	
12. OWNER REPRESENTATIVE'S APPROVAL IS REQUIRED BEFORE ANY SURFACE FILLING OR REPAIRS ARE TO BE DONE. VOIDS OR HOLES OVER 3/4"Ø ARE CONSIDERED DEFECTIVE AND SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AS DIRECTED BY THE ENGINEER OF RECORD.		12. PADS FOR STEPS TO BE POURED AFTER GENERATOR HAS BEEN SET.	
13. CONCRETE REINFORCEMENT SHALL CONFORM TO THE FOLLOWING: A. ALL BARS UNLESS NOTED OTHERWISE: DEFORMED BARS: ASTM A615, GRADE 60 B. WELDED WIRE FABRIC: ASTM A185 FLAT SHEETS C. WELDED DEFORMED WIRE REINFORCEMENT SHALL CONFORM TO ASTM 497.		ANCHOR ROD NOTES:	
14. REINFORCING BARS SHALL NOT BE TACK WELDED, WELDED, HEATED OR CUT.		1. EXCEPT AS OTHERWISE SPECIFICALLY NOTED, ALL MATERIALS FURNISHED AND WORK PERFORMED IN CONNECTION WITH MISCELLANEOUS METALS WORK SHALL BE IN CONFORMITY WITH THE AISC "STEEL CONSTRUCTION MANUAL."	
15. ALL REBAR SHALL BE CLEAN AND FREE OF RUST, OIL, DIRT AND OTHER DEBONDING AGENTS.		2. ANCHOR RODS SHALL BE AS INDICATED ON THE DRAWINGS. ANCHOR RODS SHALL BE FURNISHED WITH TWO HEAVY HEX TOP NUTS.	
16. SHIFT OR SLIGHTLY BEND REINFORCING STEEL BARS TO CLEAR EMBEDMENTS.		3. CONFIRM ANCHOR ROD LAYOUTS AND PROJECTIONS USING EQUIPMENT SHOP DRAWINGS AND STRUCTURAL STEEL SHOP DRAWINGS AS APPLICABLE.	
17. ALL REBAR SPLICES SHALL BE CLASS B. LAP SPLICES SHALL BE AS FOLLOWS UNLESS SPECIFICALLY NOTED OTHERWISE. SPLICE LENGTH SHALL BE INCREASE BY 1.3 FOR TOP BARS WHERE MORE THAN 12 INCHES OF CONCRETE IS POURED BELOW THE BAR. A. #4 22 IN B. #5 32 IN C. #6 43 IN D. #7 69 IN E. #8 86 IN F. #9 104 IN G. #10 125 IN H. #11 146 IN		4. POST INSTALLED ANCHOR RODS NOTES: A. POST INSTALLED ANCHOR RODS AND REBAR SHALL BE INSTALLED WITH HILTI HIT-HY 200-R V3 ADHESIVE SYSTEM, UNLESS NOTED OTHERWISE. B. POST INSTALLED ANCHOR RODS SHALL BE GALVANIZED HAS-V ANCHOR RODS MANUFACTURED BY HILTI, UNLESS NOTED OTHERWISE. NO SUBSTITUTIONS FOR ANCHOR RODS ARE ALLOWED. C. EMBEDMENT DEPTHS INDICATED FOR ADHESIVE ANCHORS ARE BASED ON THE HILTI HIT-HY 200 V3 SYSTEM. D. POST INSTALLED ANCHORS SHALL BE INSTALLED PER THE MANUFACTURERS INSTRUCTIONS AND THOSE INSTRUCTIONS SHALL OVERRIDE ANY INDICATED CONFIGURATION ON THESE DRAWINGS, ESPECIALLY WITH REGARD TO EMBEDMENT DEPTH.	
18. CONCRETE MINIMUM COVER TO REINFORCING STEEL SHALL BE: A. 3" CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH B. FORMED SURFACES EXPOSED TO EARTH OR WEATHER: a. 1 1/2" #5 AND SMALLER b. 2" #6 AND LARGER C. FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER: a. 3/4" SLABS, WALLS, AND JOISTS 3/4" b. 1 1/2" BEAMS, GIRDERS, AND COLUMNS 1 1/2"			
19. ALL CONCRETE REINFORCING SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED AND SPACED IN FORMS, AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN ACI 318 AND ACI 315R, "GUIDE TO PRESENTING REINFORCING STEEL DESIGN DETAILS."		TYPICAL ADHESIVE ANCHOR DETAIL 3" = 1'-0"	
20. FORMS SHALL BE MAINTAINED WET PRIOR TO CONCRETE PLACEMENT.			
21. CONCRETE SHALL BE CURED WITH A CURING COMPOUND FOR SURFACES NOT TO RECEIVE COATINGS.			
22. CERTIFYING MATERIALS THAT WILL BE USED IN THE CONCRETE WILL PRODUCE THE QUALITY OF CONCRETE REQUIRED.			
23. PRIOR TO PLACING CONCRETE, THE CONTRACTOR SHALL REFER TO PIPING, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS TO DETERMINE THE LOCATION OF BLOCK OUTS, OPENINGS, DRAINS, SLEEVES, OUTLET BOXES, CONDUIT, ANCHORS, EMBEDDED ITEMS, ETC. THE VARIOUS TRADES ARE RESPONSIBLE FOR PLACING THEIR ITEMS. SEE BELOW DRAWINGS FOR LOCATIONS OF PENETRATIONS			

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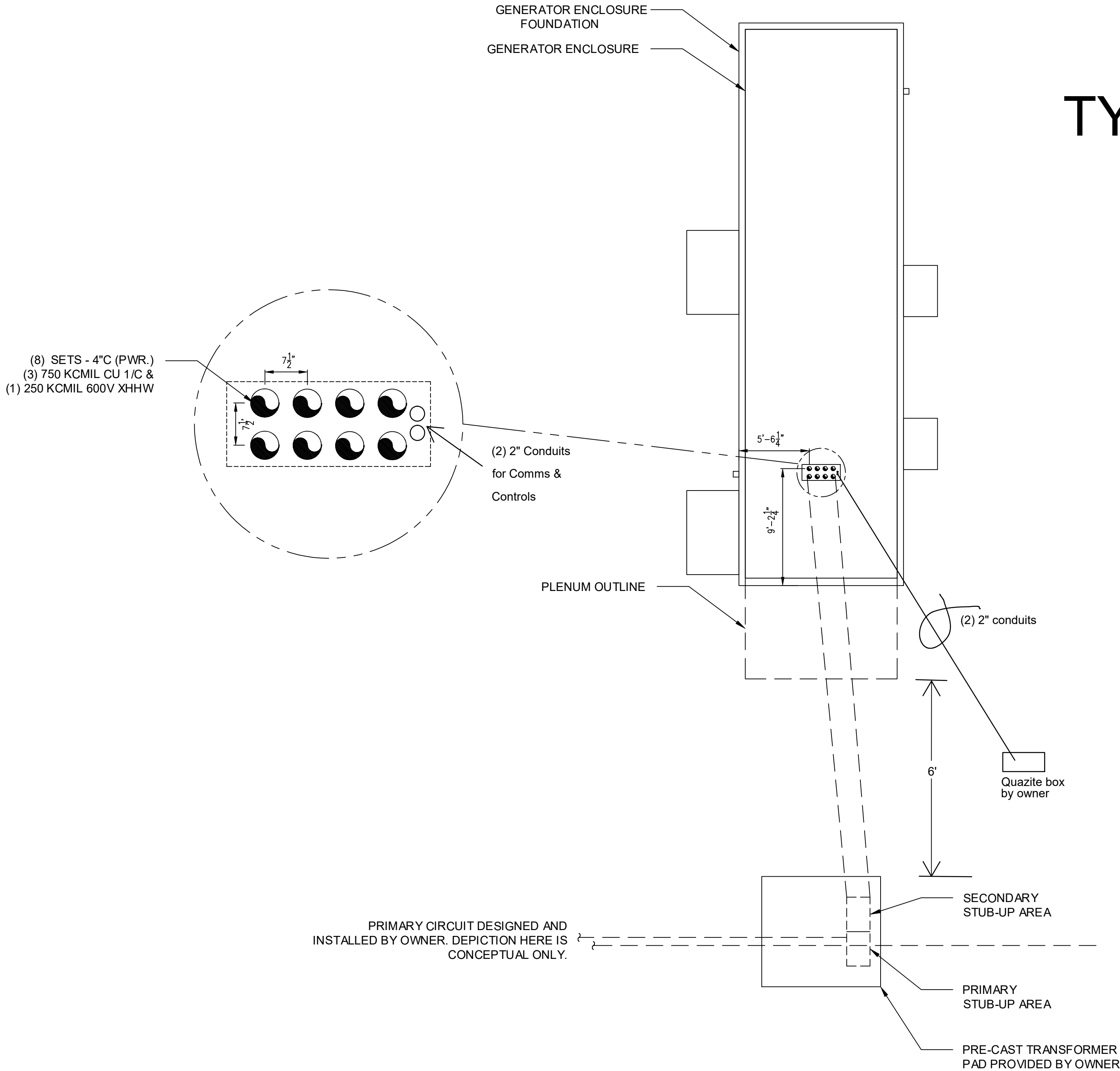


- NOTES:

1. FOR STRUCTURAL CONCRETE NOTES AND DETAILS, SEE DRAWING 10001.
2. FOR OVERALL SITE AND FOUNDATION PLAN, SEE DRAWING 10002.
3. CONCRETE PADS FOR STAIR ASSEMBLIES SHALL BE CENTERED ON GENERATOR PANEL DOORS. PANEL DOOR LOCATIONS WERE SCALED FROM VENDOR DRAWING. FIELD VERIFY LOCATIONS PRIOR TO PLACING CONCRETE.
4. SHIFT OR SLIGHTLY BEND REINFORCING BARS TO AVOID EMBEDMENTS AS REQUIRED.
5. EQUIPMENT WEIGHTS:
GENERATOR ENCLOSURE PACKAGE = ±101,000 LBS
TRANSFORMER = ±15,000 LBS
6. GENERATOR FOUNDATION LAYOUT IS BASED ON CHILLICOTHE METAL CO. DRAWING CDRBIOCC0K151 DATED 02/22/23 (REV. A).
7. SEE ELEC DRAWINGS FOR GROUNDING AND EMBEDDED CONDUITS IN SLAB.
8. PRE-CAST TRANSFORMER PADS ARE PROVIDED BY THE OWNER AND INSTALLED BY GUC.
9. PADS FOR STEPS TO BE POURED AFTER GENERATOR HAS BEEN SET.


NO.	1.A		<div>PRELIMINARY</div> <div>ADDITION</div> <div>REMOVAL</div>	<div><div>GREENVILLE UTILITIES Greenville, North Carolina</div><div>xxxxxxx SUBSTATION 115 TO 15 kV xxxxxxxxxxxx xxxxxxxxxxxx</div><div><table><tr><td>DWN.</td><td>DATE</td><td rowspan="3">DWG. NO.</td></tr><tr><td>CKD.</td><td>APPD.</td></tr><tr><td colspan="2">SCALE: NONE</td></tr></table></div></div>	DWN.	DATE	DWG. NO.	CKD.	APPD.	SCALE: NONE	
DWN.	DATE	DWG. NO.									
CKD.	APPD.										
SCALE: NONE											
REVISIONS											
PROJECT DESCRIPTION											
PRELIMINARY DESIGN											
ENG. INITIALS DATE											

TYPICAL CONDUIT DETAIL



NOTES:

- 1. ALL CONDUITS SHOWN ON THIS SHEET SHALL BE PVC SCH 40 HOWEVER RIGID STEEL ELBOWS SHALL BE USED FOR 90 DEGREE BENDS. CONDUITS ABOVE GRADE SHALL BE IMC.
- 2. PRE-CAST TRANSFORMER PAD SHALL BE PROVIDED BY OWNER AND INSTALLED BY GUC.
- 3. CONDUIT STUB-UP DIMENSIONS ARE REFERENCED OFF OF THE GENERATOR FOUNDATION, SEE STRUCTURAL DRAWINGS FOR MORE FOUNDATION DETAILS.

NO.	1.A		<div>PRELIMINARY</div> <div>ADDITION</div> <div>REMOVAL</div>	<div> GREENVILLE UTILITIES Greenville, North Carolina</div> <div>xxxxxxx SUBSTATION 115 TO 15 kV xxxxxxxxxxx xxxxxxxxxxx</div> <div><table><tr><td>DWN.</td><td>DATE</td><td rowspan="3">DWG. NO.</td></tr><tr><td>CKD.</td><td>APPD.</td></tr><tr><td colspan="2">SCALE: NONE</td></tr></table></div>	DWN.	DATE	DWG. NO.	CKD.	APPD.	SCALE: NONE	
DWN.	DATE	DWG. NO.									
CKD.	APPD.										
SCALE: NONE											
REVISIONS	PROJECT DESCRIPTION PRELIMINARY DESIGN ENG.INITIALS DATE										



NO.	1.A	REVISIONS	10MW GENS @ MGDN PRELIMINARY DESIGN COMM CONDUIT PLAN JGF 3/27/25	GREENVILLE UTILITIES Greenville, North Carolina MACGREGOR DOWNS GENERATOR STATION 480 TO 12.47 kV 10MW GENERATOR STATION xxxxxxxxxx	PRELIMINARY ADDITION	DWN. _____ DATE _____ CKD. _____ APPD. _____ SCALE: Drawing Scale 1:100 Print at 1:1	DWG. NO. _____