ADDENDUM NO. 2

Request for Proposals (RFP) F-FY26-001

Beaufort County DSS Generator Installation

Issue Date: 4/6/26

NOTICE TO ALL PROSPECTIVE PROPOSERS

This Addendum forms a part of the Contract Documents and modifies the original Request for Proposals (RFP) and all previously issued addenda for the above-referenced project. All proposers shall acknowledge receipt of this Addendum in their proposal submission.

ITEM 1 – RESPONSES TO QUESTIONS

The following questions have been received and are answered as follows:

RFI #1
Question:
Will the contract time (120 days) begin when the generator arrives or when both generator and ATS are on site?

Response:
Both the generator and the ATS must be on-site to begin the 120 days towards project completion.

RFI #2
Question:
For the asphalt where the generator will be located, what materials and spacing does the County want?

Response:
The concrete pad specifications will be based on the generator model. Beaufort County expects minimal disturbance. Asphalt should be replaced.

RFI #3
Question:
Is it permissible to bore the entire length between the generator's location and the pull box?

Response:
Yes, it is permissible to bore the entire length between the generator's location and the pull box.

RFI #4

Question:

Is it permissible to tie in a mobile generator during installation of the ATS instead of working after hours or weekends?

Response:

Yes. Mobile generator should be utilized only for the time that utility power is disconnected for tie-in to new generator gear and time should be reasonable and minimal. See Division 1 “FACILITIES AND CONTROLS" in IFB package.

RFI #5

Question:

Is a Geotechnical report required for the generator pad site?

Response:

No, third-party testing is not required.

RFI #6

Question:

Is a remote annunciator required?

Response:

Yes, a remote annunciator is required.

RFI #7

Question:

If the answer to that question is yes, is the required annunciator wired or wireless?

Response:

Wired or wireless are acceptable upon submittal approval by Beaufort County, NC., referring to previous question.

RFI #8

Question:

Are a fence or bollards required around generator?

Response:

Yes. Refer to Division 1 – Facilities and Controls in the original IFB documents.

RFI #9
Question:
Will it be acceptable to test the equipment during the commissioning process during regular hours with prior notice?

Response:
Yes. Full electrical service must be maintained throughout testing process.

RFI #10
Question:
Is MTU and Blue Star acceptable generator brands?

Response:
Beaufort County, NC staff will review and evaluate all proposed equipment.

ITEM 2 – CLARIFICATIONS / REVISIONS

The following clarifications and/or revisions are made to the Contract Documents:

- Notice to Proceed (NTP) will be issued on or following the May 4, 2026, Beaufort County Board Meeting.

ITEM 3 – DRAWINGS

The following drawing revisions are issued with this Addendum:

- Drawing No. E101 – Revised drawing E101 is attached.

ITEM 4 – SPECIFICATIONS

The following specification revisions are issued:

- Section 02200 – Revised Section 02200 is attached.

ITEM 5 – PREBID ATTENDANCE

A nonmandatory pre-bid conference was held on Friday, March 27, 2026, at 10:00 AM on site. Below is a list of participants that attended the meeting.

Name	Company	Phone Number	Email Address
Laura Respass	Gilbert Everett Builder, Inc.	252-944-9858	gebuilder1@yahoo.com
Doug Banks	Ball Electrical Inc	252-944-5730	bank$gotha@gmail.com
Aaron Lewis	Beaufort County, NC	252-946-8346	aaron.lewis@beaufortcountync.gov
Daryl Jones	Coastline Electrical	252-758-5900 (office) 252-245-0840 (cell)	darylj@coastlineelec.com
Brandon Bowen	Eastern Generator Solutions	252-714-5115	bcowen@easterngenerator.com
Shane Jones	Wilson Iron Works	(252) 578-5886	sjones@wiwinc.net
Glen Presson	RECORE	757-377-7283	glenpresson@recoreenergy.com
Lee Carpenter	Wilson Iron Works	252-885-2861	harrylee3@twc.com
Christina Smith	Beaufort County	252-946-0039	christina.smith@beaufortcountync.gov
Gilbert Everett	Gilbert Everett Builder, Inc.	252-944-8901	
Gabriel Portillo	EMG Electrical	252-373-0937	gabriel@emgelectrical.net

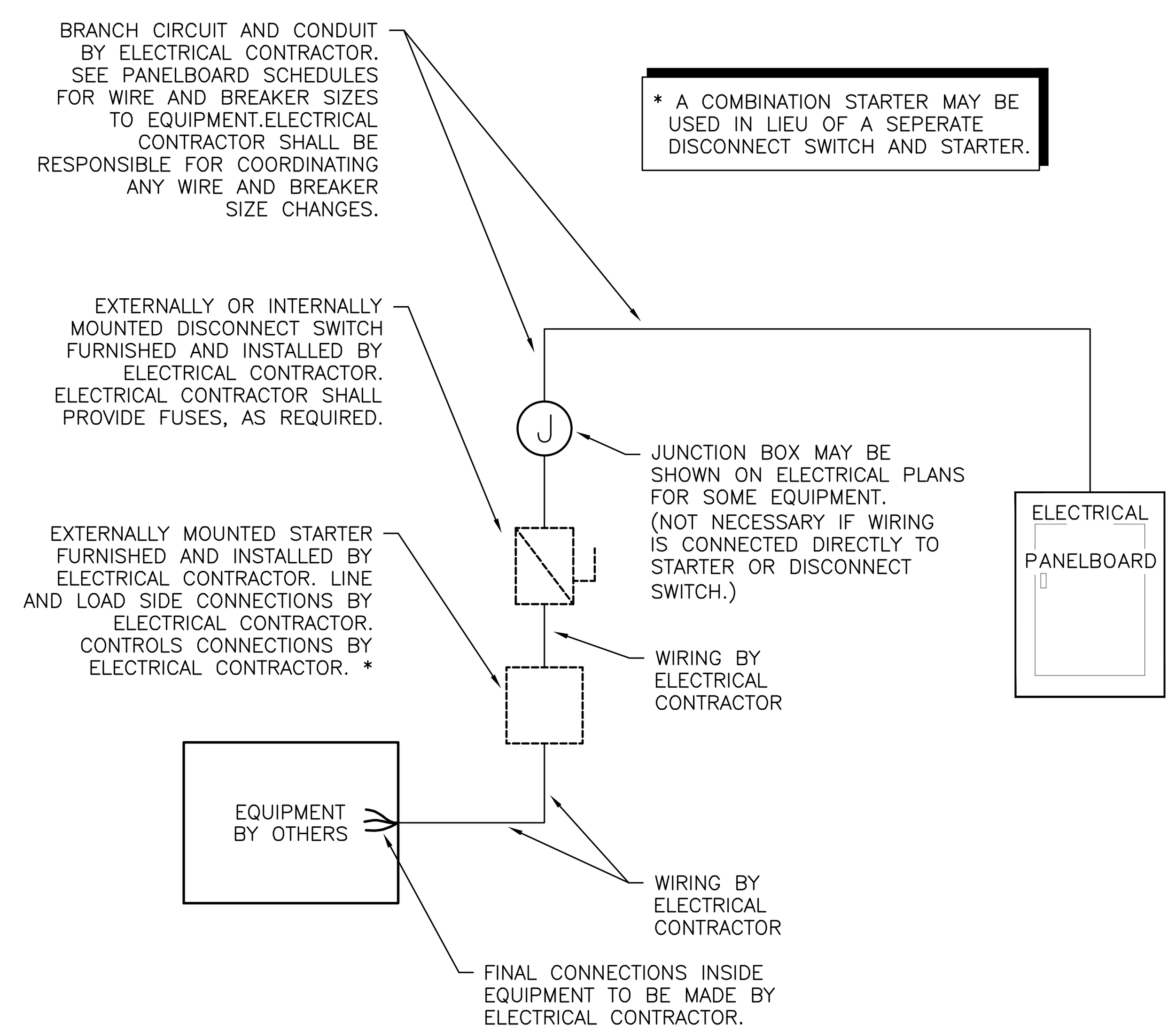
Contact information has been transcribed from the pre-bid sign-in sheet and verified for clarity; however, minor transcription variations may exist.

ACKNOWLEDGMENT

Proposers shall acknowledge receipt of this Addendum in the appropriate location within their proposal documents.

Failure to acknowledge this Addendum may result in rejection of the proposal.

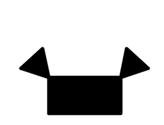
END OF ADDENDUM NO. 2



ELECTRICAL CONNECTION DETAIL

SCALE: N.T.S

LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	LAMPS	VOLTS	WATTS	B. F.
A	LEASED POLE MOUNTED SIGHT LIGHT INSTALLED BY WASHINGTON POWER.	LED	MVOLT	112W	N/A
WB	EXTERIOR LED WALL PACK WITH HEAVY DUTY TWO PIECE, DIE-CAST ALUMINUM HOUSING WITH CLEAR PRISMATIC BOROSILICATE GLASS LENS. MEDIUM SIZE AND UL LISTED FOR WET LOCATIONS. PROVIDE: PHILIPS DAY-BRITE #: WP60-SCT-G2-10-BZ OR LEDALUX #: MWP08-30w-27v-40K-D-PO OR LITHONIA #: TWR1-LED-3-40K-MVOLT-PE	LED	UNV	30W	N/A
	AUTOMATIC, SELF-CONTAINED, SELF DIAGNOSTIC, MAINTENANCE FREE 2-HEAD EMERGENCY LIGHT. UL 924 LISTED AND NFPA 101 COMPLIANT, ABS THERMOPLASTIC HOUSING, PILOT & STATUS INDICATING LIGHTS. SELF DIAGNOSTICS SHALL INCLUDE CONTINUOS SELF CHECKS AND 30 MINUTE FULL LOAD TEST WITH CHARGER OFF EVERY 30 DAYS. PROVIDE EXITRONIX #: NFT-W-G2 OR WILLIAMS #: EMER/LED-WHT-HL-SDT OR HUBBELL #: CU2SD	2-10W	UNV 277/ 6V	20W	N/A

ENGINE - GENERATOR SYSTEM :

ENGINE-GENERATOR SET SHALL BE GENERAC OR EQUAL BY ONAN-CUMMINS OR KHOLER.

MIN STANDBY RATING OF 200KW OR AS SHOWN ON PLAN WITH 120/208V THREE PHASE 4-WIRE OUTPUT.

PROVIDE WITH NATURAL GAS DRIVEN ENGINE.

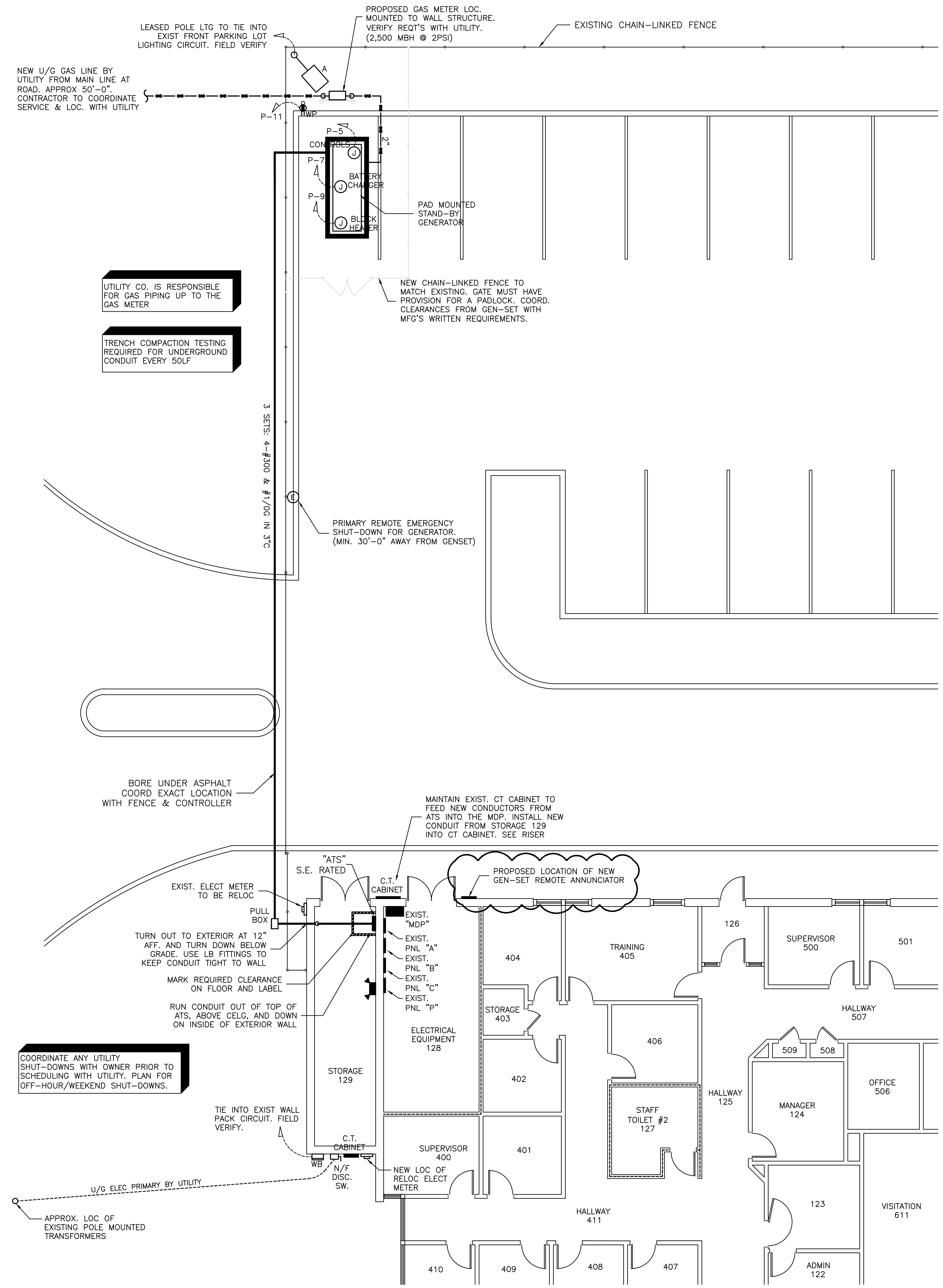
4 OR 6 CYLINDER 4 CYCLE ENGINE. RADIATOR COOLED. INCLUDE JACKET WATER HEATER WITH T'STAT. ENGINE CONTROL PANEL WITH AUTOMATIC SHUT-DOWNS ON OVER-TEMPERATURE, LOW OIL PRESSURE, ETC. HEAVY DUTY BATTERIES. HI-LO RATE AUTOMATIC CHARGER SYSTEM.

ALTERNATOR SHALL BE BRUSHLESS ROTATING FIELD TYPE, WITH PERMANENT MAGNET EXCITATION SYSTEM. WINDINGS SHALL BE VACUUM-IMPREGNATED WITH FUNGUS-RESISTANT EPOXY VARNISH.

UNIT SHALL BE PROVIDED WITH WEATHERPROOF HOUSING. HOUSING SHALL BE OF HEAVY-GAUGE ALUMINUM, WITH STAINLESS STEEL HARDWARE. HOUSING SHALL BE DESIGNED FOR LEVEL II SOUND ATTENUATION, WITH RADIATOR AND CRITICAL GRADE SILENCER INTERNALLY MOUNTED AND BAFFLED.

MANUAL TRANSFER SWITCH SHALL BE ASCO 300-D SERIES OR EQUAL FOR GENERATOR MANUFACTURER. SWITCH SHALL BE FOR 120/208V THREE-PHASE FOUR-WIRE OPERATION, RATED 800A AS A MINIMUM. UL LABEL FOR SERVICE ENTRANCE USE. SERVICE ENTRANCE BREAKER SHALL BE SEPARATE FROM SWITCH OVER CIRCUIT BREAKER DISCONNECTS FOR NORMAL AND EMERGENCY INCOMING FEEDS. 3-POLE TRANSFER, WITH SOLID NEUTRAL. RATED FOR USE ON SYSTEM WITH AVAILABLE FAULT CURRENT OF 22,000A. EQUIP WITH INTEGRAL SURGE SUPPRESSION DEVICE.

MICROPROCESSOR CONTROL INCLUDING ADJUSTABLE TIME DELAYS ON ENGINE START, TRANSFER, RE-TRANSFER, AND SHUT-DOWN. AUTOMATIC EXERCISE CONTROL, WITH SELECTOR SWITCH FOR LOAD OR NO-LOAD TEST. SYNC-CHECK RELAY FOR TRANSFER IN EITHER DIRECTION. MANUAL OPERATING LEVER. ENCLOSURE SHALL BE NEMA 3R RATED STEEL. EQUIP WITH HEATER AND T'STAT. ON FRONT OF ENCLOSURE, PROVIDE LED PILOT LIGHTS INDICATING SWITCH STATUS, AND EMERGENCY SHUT-DOWN PUSH-BUTTON.



ELECTRICAL PLAN

SCALE: 1/8"=1-0'

DATE	2-27-2026
SCALE	1/8"=1-0'
DRAWN BY	CDP
CHCKD. BY	DWP
JOB NO.	ES25040

ENGINEERING SOURCE of NC, P.A.

102-A2 Regency Blvd., Greenville, NC 27834
E-Mail Address: generalmail@engrsource.com
Voice (252) 439-0338 - Fax (252) 439-0462 - Firm #: C-1973

4/2/26

THIS DRAWING INCLUDES ENGINEERING PERFORMED FOR PLUMBING, MECHANICAL, & ELECTRICAL SYSTEMS ONLY

Renovation for:

BEAUFORT COUNTY DSS

GENERATOR ADDITION

632 W. 5TH ST, WASHINGTON, NC 27889

REVISIONS
#1 ADDEN #2 04/02/26

SHEET
E101
OF

RELATED DOCUMENTS:

The general provisions of the Contract, including General and Supplementary Conditions, and General Requirements, and Division 1 specifications that apply to the work specified in this Section.

PART 1: GENERAL

DESCRIPTION OF WORK:

Extent of earthwork is indicated on drawings.

Earthwork includes all excavation (removal of material) necessary to reach subgrade elevations indicated. This includes subsequent disposal of material. Preparation of subgrade for building pads, parking areas, access roads and storm drainage installation are included as part of this work.

Refer to Geotechnical Report recommendations for fill. On site excavated soils may be used in non-structural areas. Off-site select material must be used for fill and trench backfill at structural areas (buildings, drives, and walkways). Off-site select material used for fill from subgrade (natural grade less stripped organics) to reach design elevations is to be included in bid and is not to be charged against the off-site fill allowance under Section 01056. Off-site select material used for trench backfill is to be included in bid and is not to be charged against the off-site fill allowance under Section 01056.

DRIVES AND PARKING AREAS PREPARATION (INCLUDING HEAVY DUTY CONCRETE AREAS

1. Contractor to strip topsoil and organics (depths of 0.5’ to 1.5’) and compact exposed subgrade in drives and parking areas under Geotech consultant’s observation, to improve the top 1.5 feet of native soils as needed; Geotech consultant will evaluate as compaction progresses and provide direction to minimize instability.
2. Geotech consultant will provide subgrade evaluations during stripping and compacting operations to include proofrolling and other testing to determine specific additional needs for mass undercut.
3. Specific needs for mass undercut and backfill with select material will be identified by the Geotech consultant, and performed using the mass undercut – disposal on site, and select backfill allowance in the Base Bid of 12,000 cubic yards (this is for both buildings and drives / parking).
4. After successful proofroll of each area, contractor shall seal with specified stone base and install curb and gutter and drainage systems, and initial lift of asphalt paving. Any areas that fail subsequent to a passing proofroll will be the responsibility of the contractor to repair at his cost.
5. Material to be spoiled on site shall be deposited and graded as directed, graded, seeded and fertilized as specified.

QUALITY ASSURANCE

TESTING AND INSPECTION SERVICE:

All sub-grade and stone base shall be proof-rolled in accordance with NCDOT Standards and as directed by Engineer. Project Engineer shall be present at proof rolling.

CODES AND STANDARDS:

All work conducted as part of this are to be in compliance with NCDOT specifications for Roadway Construction.

SUBMITTALS:

Test Reports-Excavating: Submit following reports directly to Engineer from the testing services, with copy to Contractor:

Field density test reports on all trench backfill located beneath existing or proposed roadways.

JOB CONDITIONS:

Existing Utilities: Locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of support and protection during earthwork operations.

Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult utility owner and Project Engineer immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.

Do not interrupt existing utilities serving facilities occupied and used by Owner or others, during occupied hours, except when permitted in writing by Engineer and then only after acceptable temporary utility services have been provided.

Provide minimum of 48-hour notice to Engineer, Owner, and Local Government and receive written notice to proceed before interrupting any utility.

Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies for shut-off of services if lines are active.

Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warning lights.

Operate warning lights as recommended by authorities having jurisdiction.

Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

PART 2: PRODUCTS

SOIL MATERIALS

DEFINITIONS:

Satisfactory soil materials are defined as those complying with ASTM D 2487 soil classification groups GW, GP, GM, SM, SW and SP.

Drainage Fill: Washed, evenly graded mixture of crushed No. 57 - Stone.

Off-Site Select Backfill: Approved borrow material of coarse sands, fine sands or sandy clay mixture. Required for fill and trench backfill at structural areas (buildings, drives, and walkways).

Backfill Materials: Satisfactory (tested and approved by soils engineer) Class I through Class VII soil materials free of clay, rock or gravel larger than 2" in any dimension, debris, waste, frozen material, vegetable and other deleterious matter.

Excavation: Removal of material encountered to subgrade elevations and the reuse or disposal of materials removed. Refer to the following section for additional definitions and classified excavations.

Unauthorized Excavation: Removing materials beyond indicated invert/subgrade elevations or dimensions without direction by the design authority, or Owner. Unauthorized excavations, as well as associated remedial work directed by design authority or Owner, shall be at contractor's expense. Backfill and compact unauthorized excavations as specified for authorized excavations of same classification, unless otherwise directed by design authority.

Subgrade: The uppermost surface of an excavation (after stripping is fully complete) or the top surface of a new fill or backfill immediately below base course, drainage course, walks, drainage fill, slab base materials, or topsoil materials.

Borrow: Suitable (tested and approved by soils engineer) soil materials obtained from off-site when sufficient approved soil material is not available from on-site excavations.

Surface Course: The top layer of the pavement structure placed on aggregate base course, asphalt base course, or subgrade, as required.

Aggregate Base Course: Aggregate material layer placed between the subgrade elevation and asphalt paving course, meeting the requirements of Section 910-1, Paragraph (a) of "Standard Specifications for Roads and Structures" by NCDOT.

Bedding Course: Layer placed over excavated subgrade in trench bottoms before laying pipe.

Structures: Buildings, footings, foundations, retaining walls, slabs-on-grade, curbs, tanks, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below ground surface.

Utilities include on-site underground pipes, conduits, ducts, and cables, as well as underground services within building lines.

UNIT PRICES

Rock Measurement: Volume of rock actually removed, measured in original position (as observed and recorded by the Geotechnical Engineer), but not exceeding the following:

1. 24 inches outside of concrete forms other than at footings.
2. 12 inches outside of concrete forms at footings.
3. 6 inches outside of minimum required dimensions of concrete cast against grade.
4. 6 inches beneath bottom of concrete slabs-on-grade.
5. 6 inches beneath bottom of footings.
6. 6 inches beneath invert elevation of pipe and/or related structures in trenches, and the greater of 24 inches wider than outside pipe diameter, or 42 inches wide (regardless of trench box sizes). 24 inches wider than related structures in trenches.

Unsuitable Soil Measurement: Volume of unsuitable soil actually removed below subgrade elevations (as recommended and classified by Owner's Geotechnical Testing Firm) measured in-place, but not exceeding the following:

1. 24 inches outside of concrete forms other than at footings.
2. 12 inches outside of concrete forms at footings.
3. 6 inches outside of minimum required dimensions of concrete cast against grade.
4. 12 inches beneath invert elevation of pipe and/or related structures in trenches, and the greater of 24 inches wider than outside pipe diameter, or 42 inches wide (regardless of trench box sizes). 24 inches wider than related structures in trenches.
5. Minimum dimensions as recommended by Owner's Geotechnical Testing Firm in any other areas.

Unit prices for unsuitable soil and rock removal shall include all work and materials as defined in Division 1 Sections, including any required replacement with suitable fill soils or other materials, as required.

Structural Geo-Grids: Integrally Formed Biaxial Geogrid for base reinforcement and subgrade improvement formed with polypropylene polymer in roll form providing positive mechanical interlock. Provide Tensar BX1100 Geogrid.

PART 3: EXECUTION

EXCAVATION CLASSIFICATIONS:

Excavation Classifications: All excavation is classified as General Excavation except for Mass Rock, Trench Rock and Unsuitable Soil Materials as defined in this section.

General Excavation: Excavation, removal and/or disposal of pavements and other obstructions visible on surface, underground structures, utilities, and other items indicated to be demolished and/or removed; together with soil, boulders, and other materials encountered that are not classified as Mass Rock, Trench Rock, Unsuitable Soil, or unauthorized excavation.

a. Intermittent drilling, ripping or blasting to increase production and not necessary to permit excavation of materials encountered will be considered general excavation.

b. Soil (irregardless of nature) or other debris encountered above plan subgrade elevations shall be considered general excavation unless determined by the Owner's Geotechnical Testing Firm to meet the definition of Mass Rock.

Unsuitable Soil Excavation: Removal and disposal of soil materials or other debris encountered at or below plan subgrade elevations, which are deemed unsuitable to remain in place by the owner's Geotechnical Testing Firm or design authority.

a. Soil and/or other debris encountered above plan subgrade shall be considered general excavation.

b. Soil material which, in the opinion of the Owner's Geotechnical Testing Firm, can be repaired by scarifying, drying or moistening, and recompacting, or material which is made unsuitable by delay of work, lack of protection, inclement weather, or other actions of the Contractor or their Sub-Contractors shall not be considered as unsuitable soil and shall be repaired or replaced by the contractor at no additional cost to the Owner.

c. Any material moved or removed without the prior classification, measurement and approval by the Owner's Geotechnical Testing Firm or design authority will be considered as general excavation.

Mass Rock Excavation: Removal of a rock formation within an open excavation that (1) is a boulder larger than 1.5 cubic yards in one piece, or (2) cannot be excavated without systematic drilling and blasting. In the event Mass Rock (as defined above) is encountered, the Contractor shall demonstrate (at no additional cost to the owner) to the Owner's Geotechnical Testing Firm that the rock cannot be ripped with equipment equivalent to the following size and performance ratings, without systematic drilling and blasting.

a. Mass Rock Excavation Equipment: Late-model, track-type tractor rated at not les than 270 hp flywheel power with a draw bar pull of 65,000 lbs at 1 mph in the lowest available gear, and the highest normal operating rpm pulling a sharp, single-toothed shank ripper. The equipment operator should be adequately qualified and experienced with ripping rock with this type equipment.

Trench Rock Excavation: Removal of a rock formation within a trench excavation that (1) is a boulder larger than 1.0 cubic yards in one piece, or (2) cannot be excavated by rock excavating equipment equivalent to the following in size and performance ratings, without systematic drilling and blasting.

a. Trench Rock Excavation Equipment: Late-model, track mounted hydraulic excavator equipped with a 42-inch wide (or smaller), short tip-radius bucket with rock teeth; rated at not less than 120-hp flywheel power with a pull of not les than 36,500-lb at a rate of 10 cubic yards per hour. The

equipment operator should be adequately qualified and experienced with excavating rock with this type equipment.

Classified Excavation Requirements:

a. Excavations more than 10 feet in width and pits more than 30 feet in either length or width are defined as open excavations.

b. Contractor shall expose and clean the surface and any exposed areas of the rock material for classification and measurement (in-place) by the Owner's Geotechnical Testing Firm.

c. Do not excavate rock or unsuitable soil until it has been classified and measured by the Owner's Geotechnical Testing Firm. Any material moved or removed without the prior classification and measurement by the Owner's Geotechnical Testing Firm will be considered as unclassified excavation.

d. The Owner or the Owner's Geotechnical Testing Firm shall be the final judge on what is classified as Mass Rock, Trench Rock, or Unsuitable Soils.

e. 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 shall be in good repair and proper working condition. The contractor may be required to provide verification of the equipment operator's qualifications and experience operating the noted equipment for rock removal purposes.

f. Rippable rock, weathered rock, partially weathered rock, soft rock, or hard overburden soil, which is not classified as Mass Rock or Trench Rock according to the above definitions, shall be considered unclassified excavation.

EXCAVATION AND BACKFILL:

Roadway Excavation: Excavation for the roadways, drives, and parking areas shall conform to the lines, grades, cross sections, and dimensions indicated on the drawings and shall include the excavation of all unsuitable materials from the subgrade. Subgrade shall conform to proposed line, grade and cross-section. This operation shall include any reshaping and wetting or drying required to obtain proper compaction. All soft or otherwise unsuitable material shall be removed and replaced with approved off-site select material.

Proof Rolling and Undercut Excavation: When excavation has reached required subgrade elevations, provide a proof rolling of the prepared pavement subgrade with a loaded tandem axle dump truck (+25 tons) in the presence of the Owner's Geotechnical Testing Firm. The proof rolling shall be covered by the wheels of the proof rolling vehicle operating at a speed between 2 and 3 miles per hour.

Any areas that rut or pump excessively shall be allowed to dry or shall be undercut and backfilled with select material as directed by the Owner's Geotechnical Testing Firm.

After undercut and backfill operations are complete, a final proof rolling of the undercut areas will be performed in the presence of the Owner's Geotechnical Testing Firm.

Additional Excavation: When excavation has reached required invert/subgrade elevations, notify the Owner's Geotechnical Testing Firm, who will make an inspection of conditions.

Stability of Excavations: Slope sides of excavations to comply with local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated. Maintain sides and slopes of excavations in safe condition until completion of backfilling.

Shoring and Bracing: Provide materials for shoring and bracing, such as sheet piling, uprights, stringers and cross-braces, in good serviceable condition. Establish requirements for trench shoring and bracing to comply with local codes and authorities having jurisdiction.

Maintain shoring and bracing in excavations regardless of time period excavations will be open. Carry down shoring and bracing as excavation progresses.

Dewatering: Prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area.

Do not allow water to accumulate in excavations. Remove water to prevent softening of excavation bottoms. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations.

Establish and maintain temporary drainage ditches and other diversions outside excavation limits to convey rain water and water removed from excavations to collecting or run-off areas. Do not use trench excavations as temporary drainage ditches.

Material Storage: Stockpile satisfactory excavated materials where directed, until required for backfill or fill. Place, grade and shape stockpiles for proper drainage.

Excavation for Pavement: Cut surface directly beneath proposed pavement to comply with cross-sections, elevations and grades as shown.

CONTRACTOR IS TO CONTACT NC ONE CALL 48 HOURS PRIOR TO ANY EXCAVATION. CONTRACTOR SHOULD UNDERSTAND THAT ONCE EXISTING UTILITIES ARE LOCATED THAT SAID LOCATION IS VALID ONLY FOR TEN DAYS.

Should it be necessary to cut pavement or otherwise work within a public street, the North Carolina Department of Transportation is to be contacted prior to work, and applicable permits obtained.

TRENCH BACKFILL:

Excavation, bedding, haunching & backfilling shall conform to Section 02210 TRENCHING AND BACKFILLING FOR UTILITIES, and Drawings.

Refer to Geotechnical Report recommendations for trench backfill. On site excavated soils may be used in non-structural areas. Off site select material must be used for backfill at structural areas (buildings, drives, and walkways). Off site select material used for this purpose is to be included in bid and is not to be charged against the off site fill allowance under Section 01056.

Width of trenches at any point below top of pipe shall not be greater than outside diameter of pipe plus 16" for pipes measuring up to 30", and 24" for pipe measuring greater than 30", to permit satisfactory jointing and thorough tamping of bedding material under and around pipe. Care shall be taken not to over-excavate.

Bedding surface for piping shall provide a firm foundation of uniform density throughout entire length of pipe. Carefully bed pipe in a sand or stone material foundation as specified, that has been accurately shaped and rounded to conform to lowest 1/4 of outside portion of circular pipe, or lower curved portion of pipe arch for entire length of pipe or arch. When necessary, tamp bedding firmly. Bell holes and depressions for joints shall be only of such length, depth, and width as required for properly making particular type joint.

Bed pipe located under pavement or building footprints in a sand or stone material foundation as specified and as indicated on Drawings.

Existing utility lines shall be protected from damage during excavation and backfilling, and, if damaged, shall be repaired by the Contractor at his expense. In the event that the Contractor damages any existing utility lines, he shall report thereof immediately. If it is determined that repairs shall be made by the Contractor, such repairs shall be ordered under terms of other sections of these specifications.

After bedding has been prepared and pipe installed, selected material from excavation or borrow, at a moisture content that will facilitate compaction, shall be placed along both sides of pipe in layers not exceeding 6" in compacted depth. Bring backfill up evenly on both sides of pipe for its full length. Care shall be taken to ensure thorough compaction of fill under haunches of pipe. Thoroughly compact each layer to an elevation of at least 12" above top of pipe. Backfill and compact remainder of trench by spreading and rolling, or compact by mechanical rammers or tampers in layers not exceeding 8".

After bedding has been prepared and pipe installed for locations under pavement and building footprints, backfill and compact remainder of trench with selected Type II, III or IV material from excavation or borrow.

In compacting or rolling or operating heavy equipment parallel with pipe, displacement of or injury to pipe shall be avoided. Any pipe damaged thereby shall be repaired or replaced, at option of Engineer, and at expense of the Contractor.

When fill or backfill is required to be compacted to any specified density factor, tests shall be executed by an approved laboratory to ascertain compliance with requirements, at the expense of the Owner through the established Testing Allowance. One test shall be made for each 50 linear feet of open trench. Cost of laboratory services shall be borne by the Contractor as a part of costs for this section of work for any repeat tests for any specific area which fails to meet requirements.

Cold Weather Protection: Protect excavation bottoms against freezing when atmospheric temperature is less than 35 degrees F (l degree C).

GENERAL BACKFILL:

Place acceptable soil fill material in layers to required subgrade elevations, for each area classification listed below.

In excavations, use satisfactory excavated or borrow material.

Under grassed areas, use satisfactory excavated or borrow material.

Under structural areas (buildings, walks and drive pavements), use approved off-site select borrow material.

Backfill excavations as promptly as work permits, but not until completion of the following: Inspection, testing, approval, and recording locations of underground utilities.

Ground Surface Preparation: Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow, strip, or break-up sloped surfaces steeper than 1 vertical to 4 horizontals so that fill material will bond with existing surface.

When existing ground surface has a density less than that specified under "Compaction" for particular area classification, break up ground surface, pulverize, moisture-condition to optimum moisture content, and compact to required depth and percentage of maximum density.

Placement and Compaction: Place backfill and fill materials in layers not more than 8” in loose depth for material compacted by heavy compaction equipment, and not more than 4" in loose depth for material compacted by hand-operated tampers.

Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content.

Compact each layer to required percentage of maximum dry density or relative dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.

Place backfill and fill materials evenly adjacent to structures, piping or conduit to required elevations. Take care to prevent wedging action of backfill against structures or displacement of piping or conduit by carrying material uniformly around structure, piping or conduit to approximately same elevation in each lift.

COMPACTION:

General: Control soil compaction during construction providing minimum percentage of density specified for each area classification indicated below.

Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages of maximum density for soils which exhibit a well-defined moisture density relationship (cohesive soils) determined in accordance with ASTM D 698;

Structures, Building Slabs and Steps: Compact each layer of backfill or fill material at 95 % maximum density for cohesive material or 98 % for cohesionless material to within 2' of surface. From 2' deep to finish grade, compact 98% maximum density for cohesive material or 100% relative density for cohesionless material.

Pavements: Compact each layer of backfill or fill material at 95% maximum dry density to within 6” of surface. From 6” deep to finish grade, compact to 100% maximum density in accordance with AASHTO-T99.

Lawn or Unpaved Areas: Compact top 6" of subgrade and each layer of backfill or fill material at 85% maximum density for cohesive soils and 90% relative density for cohesionless soils.

Walkways: Compact top 6" of subgrade and each layer of backfill or fill material at 90% maximum density for cohesive material or 95% relative density for cohesionless material.

Moisture Control: Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material, to prevent free water appearing on surface during or subsequent to compaction operations.

Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.

Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing until moisture content is reduced to a satisfactory value.

GRADING:

General: Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are indicated, or between such points and existing grades.

Grade areas as shown on the Drawings to prevent ponding. Finish surface free from irregular surface changes, and as follows:

Lawn or Unpaved Areas: Finish areas to receive a minimum of 3" layer topsoil to within not more than 0.10' above or below required sub-grade elevations.

Walks: Shape surface of areas under walks to line, grade and cross-section, with finish surface not more than 0.05' above or below required subgrade elevation.

Pavements: Shape surface of areas under pavement to line, grade and cross-section, with finish surface not more than 1/2" above or below required subgrade elevation.

Patches in driveways and roadways shall be graded to depth required to match existing pavement or to provide minimum pavement specified.

Compaction: After grading, compact subgrade surfaces to the depth and indicated percentage of maximum or relative density for each area classification.

PAVEMENT SUBBASE COURSE:

General: Subbase course consists of placing subbase material, in layers of specified thickness, over subgrade surface to support a pavement base course.

Grade Control: During construction, maintain lines and grades including crown and cross-slope of subbase course.

Shoulders: Place shoulders along edges of subbase course to prevent lateral movement. Construct shoulders of acceptable soil materials, placed in such quantity to compact to thickness of each subbase course layer. Compact and roll at least a 12" width of shoulder simultaneously with compacting and rolling of each layer of subbase course.

Placing: Place subbase course material on prepared subgrade in layers of uniform thickness, conforming to indicated cross-section and thickness. Maintain optimum moisture content for compacting subbase material during placement operations.

When a compacted subbase course is shown to be 6" thick or less, place material in a single layer. When shown to be more than 6" thick, place material in equal layers, except no single layer more than 6" or less than 3" in thickness when compacted.

FIELD QUALITY CONTROL:

Quality Control Testing During Construction: Allow testing service to inspect and approve subgrades and fill layers before further construction work is performed.

If in opinion of Engineer, based on testing service reports and inspection, subgrade or fills which have been placed are below specified density, provide additional compaction and testing at no additional expense.

MAINTENANCE:

Protection of Graded Areas: Protect newly graded areas from traffic and erosion. Keep free of trash and debris.

Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.

Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, re-shape, and compact to required density prior to further construction.

Settling: Where settling is measurable or observable at excavated areas during general project warranty period, remove surface (pavement, lawn or other finish), add backfill material, compact, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

DISPOSAL OF EXCESS AND WASTE MATERIALS:

Removal from Owner's Property: Remove waste materials, including unacceptable excavated material, trash and debris, and dispose of off Owner's property.

Comply with and coordinate with the project Construction Waste Management Plan (CWMP).

END OF SECTION