STUDIO JAED
www.studiojaed.com

Addendum No. 1

Meeting Date:	September 16, 2019
Addendum Date:	September 17, 2019
Project:	High Voltage System Replacement Richardson & Robbins Building
DFM Project No:	MC1002000257

The work herein shall be considered part of the bid documents for the referenced project and carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Sum or Contract Time. Acknowledge receipt of addendum on the bid form as indicated.

Clarifications / Pre-Bid Meeting Minutes:

1. Introductions:
    a. OMB/DFM Project Manager – Dave Brewster (dave.brewster@delaware.gov) (302) 739-5644.
    b. Studio JAED Project Manager – Dan Shurina, P.E. (shurinad@studiojaed.com) 302-832-1652.

2. See attached pre-bid sign in sheets for reference.

3. Review of Bidding Timeline:
    a. The bid opening is to take place in the reception area of the Facilities Management Office in the Thomas Collins Building, 540 South DuPont Highway, Suite 1 (Third Floor), Dover, DE 19901 at **2:00 p.m. local time on Thursday, October 10, 2019**.
    b. Bidders are to submit questions in writing by email to Dan Shurina at the e-mail address noted above. Responses will be issued by addendum.
    c. Bidder questions will be accepted until 5:00 p.m., Friday, September 27, 2019.
    d. The last day for addenda will be Friday, October 4, 2019.

4. All drawings must be purchased through RCI as noted in the bid advertisement. All information / addenda will be released through RCI for this bid. IT IS THE CONTRACTOR'S RESPONSBILITY TO CONTACT RCI OR STUDIO JAED PRIOR TO THE BID DATE TO ENSURE THAT THEY HAVE RECEIVED ALL ADDENDA FOR THE PROJECT.

5. A voluntary contractor walkthrough is scheduled for **Thursday, September 26, 2019 at 10:00 AM**. All contractors shall meet at the rear of the building adjacent to the cooling tower.

6. The contractor is responsible for obtaining all required building permits and trade permits for the project.

7. The project includes a $10,000 allowance for unforeseen conditions which is to be included in contractor's base bid price and is to be used at the owner's discretion as project progresses. The allowance is not intended for any portion of work indicated in the bid documents. Any balance remaining in the allowance is to be returned to owner by credit change order at project conclusion.

8. Bid Form and Required Documents:
    a. Bidders may not alter the bid form.
    b. If bid form is reissued during the bidding process, the latest bid form is to be submitted.
    c. Bidders are not to leave any blank lines on the bid form. Fill out bid form completely.
    d. Bidders are to individually acknowledge receipt of each numbered addendum received on the bid form. Bidders must list themselves for any listed subcontractors scope of work if they intend to do the scope of work with their own work force.
    e. Completed drug testing affidavit forms are required with each bid.
    f. Bidders are to include a copy of Delaware business license with bid form.
    g. A bid bond is required to be submitted with the bid. Bidders are to use the state bid bond form, a copy of which is found in the project manual.

9. All shutdowns of any critical building system (including but not limited to sprinkler, fire alarm, HVAC, water, sewer and electrical) are to be scheduled and approved in advance by the owner – and may be canceled by owner without notice. Work requiring the shutdown of building systems is to occur during evening weeknight hours (between 6pm and 6am) or during weekend hours (6pm Friday through 6am Monday), and work is to continue around the clock until the service is restored.

10. In general, work which does not require a shutdown of a critical building system may be performed during normal business hours. Work which requires a shutdown of a critical building system is to be performed during one or more coordinated, weather-dependent, after-hours shutdowns.

11. The contractor is to provide underground utility locating services as needed for the project and is to hand-dig as required near existing underground utilities.

Questions and Responses:

1. Question – I'm trying to figure out how you run 8 ea. 4" rigid conduits up a wall and into the building using a 36" radius elbow. The conduits will be three feet off of the wall to make this work. Your junction box below is 18" deep. I don't think that this will work.
   Response – A pull box is to be provided at the top of the vertical run instead of long sweep elbows. See attached sketch.

2. Question – Is a licensed plumber needed to do piping work?
   Response – Yes.

3. Question – What is the expected project duration?
   Response – The expected project duration is approximately 180 calendar days from written notice to proceed to substantial completion.

4. Question – Is a coordination study required?
   Response – A coordination study is required with Add Alternate No. 1 but not with base bid scope of work. See attached specification.

5. Question – Consider replacing fencing around cooling tower.
   Response – The project has no provision for new fencing or gravel. The contractor is to disassemble and reassemble fencing as needed for access, and restore gravel and fencing to original condition following new work.

Changes to Scope:

1. The scope of work described in the documents as being performed by the City of Dover under separate contract is to be included with the contractor's bid. Attached is the original proposal from the City of Dover dated November 4, 2018 and a Primary Extension Fee Update dated August 19, 2019. **The current expected cost for City of Dover's scope of work is $47,739.86.** Utility locating services are required by the City of Dover which is also the responsibility of the contractor. The contractor is responsible for coordinating with and payment to the City of Dover.

Changes to Drawings:

1. Drawing E-101 – revise long sweep elbows to pull box. See attached sketch, SK-E.1.

Changes to Specifications:

1. 26 05 73 Overcurrent Protective Device Coordination Study – New specification added. See attached specification.

Attachments:

1. Pre-Bid Sign-in Sheet; please see attached sheet for a list of the attendees at the mandatory pre-bid

2. Pre-Bid Meeting Minutes; please see above. These are now integral to the bidding documents.

3. Sketch SK-E.1

4. Specification 26 05 73 Overcurrent Protective Device Coordination Study

5. Proposal and Primary Service Extension Letter

END

STUDIO JAED

HEADQUARTERS
2500 WRANGLE HILL ROAD
FOX RUN OFFICE PLAZA, SUITE 110
BEAR, DE 19701

302.832.1652 PHONE
302.832.1423 FAX

ARCHITECTS ENGINEERS FACILITIES SOLUTIONS

Project: High Voltage System Replacement
Richardson & Robbins Building
Project No.: MC1002000257 / 18049

Pre-Bid Meeting
September 16, 2019

SIGN IN SHEET

ATTACH BUSINESS CARD *or* WRITE: Name, Firm, Phone, Email, Signature

POWER PLUS
ELECTRICAL CONTRACTING, INC.
MATT BAILEY
President
mattb337@gmail.com
CELL 302-363-5069
P.O. Box 199
Cheswold, DE 19936
302-736-5070
FAX 302-736-5120

Name: Bobby Tudor
Firm: Tudor Electric, Inc.
Phone: 302-736-1444
Email: tudorelectric@comcast.net
Signature:

DIAMOND ELECTRIC, INC.
Contracting • Engineering • Infrared Testing
STEVE HILL
3566 Peachtree Run
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(302) 697-3296
Fax (302) 697-1328
Cell: (302) 363-7663
E-mail: shill@diamondelectric.org

Name: Sam Stewart
Firm: Dvorak LLC.
Phone: 301-502-779
Email: Stewart@DvorakLLC.com
Signature:

Dvorak LLC
Electrical Contractor
Sam Stewart
Estimator
2700 North Point Boulevard
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sstewart@dvorakllc.com
www.dvorakllc.com
Phone: 443.503.6400
Service: 443.503.6373
Fax: 443.503.6626
Cell: 301.502.7791

Name: Victor Rolli
Firm: Mid-Atlantic Electrical
Phone: (302) 934-7171
Email: VROLLI@MAES1.com
Signature:

STUDIO JAED

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2500 WRANGLE HILL ROAD
FOX RUN OFFICE PLAZA, SUITE 110
BEAR, DE 19701

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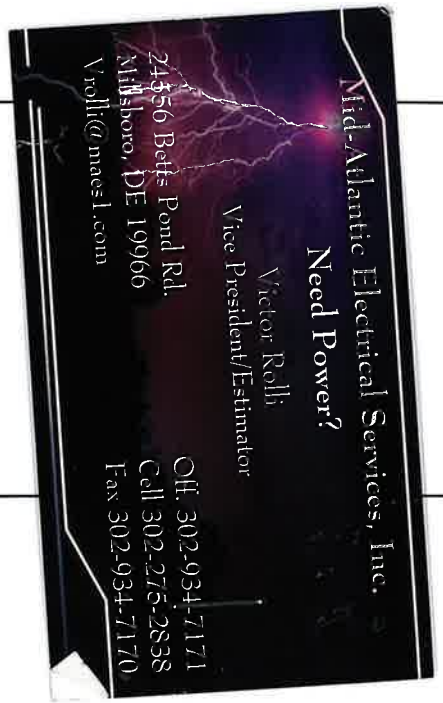

Name: Gary Wolf
Firm: Current Solutions Inc
Phone: 302 736-5210
Email: Cursolinc@Comcast.net
Signature:

Name: Brian Schaffer
Firm: Philips Brothers Electrical
Phone: 610-458-8578
Email: sarah@philipsbrothers.com
brian@philipsbrothers.com
Signature:

Name: DAVE BREWSTER
Firm: OMB / DFM
Phone:
Email: dave.brewster@delaware.gov
Signature:

STUDIO JAED

HEADQUARTERS
2500 WRANGLE HILL ROAD
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ARCHITECTS ENGINEERS FACILITIES SOLUTIONS

Project: High Voltage System Replacement
Richardson & Robbins Building
Project No.: MC1002000257 / 18049

Pre-Bid Meeting
September 16, 2019

SIGN IN SHEET

ATTACH BUSINESS CARD *or* WRITE: Name, Firm, Phone, Email, Signature

	Name: JIM DEFRANGESCO Firm: OMB / DFM Phone: (302) 739-5644 Email: JAMES.DEFRANGESCO@DELAWARE.GOV Signature:
	Name: PARAG H. PATEL Firm: STUDIO JAED Phone: 302-832-1652 Email: PatelP@Studiojaed.com Signature: Parag H. Patel
	Name: Dan Shurina Firm: Studio JAED Phone: 302-832-1652 Email: shurinad@studiojaed.com Signature:

SECTION 26 05 73
OVERCURRENT PROTECTIVE DEVICE COORDINATION STUDY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Arc flash and shock risk assessment.
   1. Includes arc flash hazard warning labels.
B. Short circuit study.
C. Coordination study and analysis.

1.02 RELATED REQUIREMENTS

A. Section 26 05 53 - Identification for Electrical Systems: Additional requirements for arc flash hazard warning labels.
B. Section 26 24 13 - Switchboards.

1.03 REFERENCE STANDARDS

A. ANSI Z535.4 - American National Standard for Product Safety Signs and Labels.
B. IEEE 242 - IEEE Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems.
C. IEEE 399 - IEEE Recommended Practice for Industrial and Commercial Power Systems Analysis.
D. IEEE 551 - IEEE Recommended Practice for Calculating Short-Circuit Currents in Industrial and Commercial Power Systems.
E. IEEE 1584 - IEEE Guide for Performing Arc Flash Hazard Calculations.
F. NETA ATS - Acceptance Testing Specifications for Electrical Power Equipment and Systems.
G. NFPA 70 - National Electrical Code.
H. NFPA 70E - Standard for Electrical Safety in the Workplace.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Existing Installations: Coordinate with equipment manufacturer(s) to obtain data necessary for completion of studies.
   2. Coordinate the work to provide equipment and associated protective devices complying with criteria for selection and adjustment, as determined by studies to be performed.
   3. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.
B. Sequencing:
   1. Submit study reports prior to or concurrent with product submittals.
   2. Do not order equipment until matching study reports and product submittals have both been evaluated by Architect.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Study reports, stamped or sealed and signed by study preparer.
C. Arc Flash Hazard Warning Label Samples: One of each type and legend specified.
D. Study Report: Submit protective device studies as specified, prior to submission of product data submittals or ordering or fabrication of protective devices.
   1. Include stamp or seal and signature of preparing engineer.

E. Certification that field adjustable protective devices have been set in accordance with requirements of studies.

F. Project Record Documents: Revise studies as required to reflect as-built conditions.
   1. Include hard copies with operation and maintenance data submittals.
   2. Include computer software files used to prepare studies with file name(s) cross-referenced to specific pieces of equipment and systems.

1.06 PROTECTIVE DEVICE STUDY

A. Analyze the specific electrical and utilization equipment (according to NEC definition), the actual protective devices to be used, and the actual feeder lengths to be installed.
   1. Study Methodology: Comply with requirements and recommendations of NFPA 70, IEEE 399, and IEEE 242.
   2. Report: State the methodology and rationale employed in making each type of calculation; identify computer software package(s) used.

B. One-Line Diagrams: Prepare schematic drawing of electrical distribution system, with all electrical equipment and wiring to be protected by the protective devices; identify nodes on the diagrams for reference on report that includes:
   1. Calculated fault impedance, X/R ratios, utility contribution, and short circuit values (asymmetric and symmetric) at the main switchboard bus and all downstream devices containing protective devices.
   2. Breaker and fuse ratings.
   3. Transformer kVA and voltage ratings, percent impedance, X/R ratios, and wiring connections.
   4. Identification of each bus, with voltage.
   5. Conduit materials, feeder sizes, actual lengths, and X/R ratios.

C. Short Circuit Study: Calculate the fault impedance to determine available 3-phase short circuit and ground fault currents at each bus and piece of equipment during normal conditions, alternate operations, emergency power conditions, and other operations that could result in maximum fault conditions.
   1. Show fault currents available at key points in the system down to a fault current of 7,000 A at 480 V and 208 V.
   2. Include motor contributions in determining the momentary and interrupting ratings of the protective devices.
   3. Report: Include all pertinent data used in calculations and for each device include:
      a. Device identification.
      b. Protective device.
      c. Device rating.
      d. Calculated short circuit current, asymmetrical and symmetrical, and ground fault current.

D. Coordination Study: Perform an organized time-current analysis of each protective device in series from the individual device back to the primary source, under normal conditions, alternate operations, and emergency power conditions.
   1. Graphically illustrate that adequate time separation exists between series devices, including upstream primary device.
   2. Plot the specific time-current characteristics of each protective device on log-log paper.
   3. Organize plots so that all upstream devices are clearly depicted on one sheet.
   4. Also show the following on curve plot sheets:
      a. Device identification.
      b. Voltage and current transformer ratios for curves.
      c. 3-phase and 1-phase ANSI damage curves for each transformer.

d. No-damage, melting, and clearing curves for fuses.
e. Cable damage curves.
f. Transformer inrush points.
g. Maximum short circuit cutoff point.
h. Simple one-line diagram for the portion of the system that each curve plot illustrates.
i. Software report for each curve plot, labeled for identification.

E. Analysis: Determine ratings and settings of protective devices to minimize damage caused by a fault and so that the protective device closest to the fault will open first.
1. Required Ratings and Settings: Derive required ratings and settings of protective devices in consideration of upstream protective device settings and optimize system to ensure selective coordination.
2. Identify any equipment that is underrated as specified.
3. Identify specified protective devices that will not achieve required protection or coordination and cannot be field adjusted to do so, and for which adequate devices would involve a change to the contract sum.
4. In all cases where adequate protection or coordination cannot be achieved at no extra cost to Owner, provide a discussion of alternatives and logical compromises for best achievable coordination.

F. Protective Device Rating and Setting Chart: Summarize in tabular format the required characteristics for each protective device based on the analysis; include:
1. Device identification.
2. Relay CT ratios, tap, time dial, and instantaneous pickup.
3. Circuit breaker sensor rating, long-time, short-time, and instantaneous settings, and time bands.
4. Fuse rating and type.
5. Ground fault pickup and time delay.
6. Input level and expected response time at two test points that are compatible with commonly available test equipment and the ratings of the protective device.
7. Highlight all devices that as furnished by Contractor will not achieve required protection.

1.07 QUALITY ASSURANCE

A. Computer Software for Study Preparation: Use the latest edition of commercially available software utilizing specified methodologies.

B. Contractor Responsibility: Provide all project-related data needed by study preparer, including equipment, wire sizes, insulation types, conduit types, and actual circuit lengths.

PART 2 PRODUCTS

2.01 ARC FLASH HAZARD WARNING LABELS

A. Provide warning labels complying with ANSI Z535.4 to identify arc flash hazards for each work location analyzed by the arc flash and shock risk assessment.
1. Materials: Comply with Section 26 05 53.
2. Minimum Size: 4 by 6 inches.
3. Legend: Provide custom legend in accordance with NFPA 70E based on equipment-specific data as determined by arc flash and shock risk assessment.
a. Include orange header that reads "WARNING" where calculated incident energy is less than 40 calories per square cm.
b. Include red header that reads "DANGER" where calculated incident energy is 40 calories per square cm or greater.
c. Include the text "Arc Flash and Shock Hazard; Appropriate PPE Required" or approved equivalent.

d. Include the following information:
   1) Arc flash boundary.
   2) Available incident energy and corresponding working distance.
   3) Site-specific PPE (personnel protective equipment) requirements.
   4) Nominal system voltage.
   5) Limited approach boundary.
   6) Restricted approach boundary.
   7) Equipment identification.
   8) Date calculations were performed.

2.02 PROTECTIVE DEVICES

PART 3 EXECUTION

3.01 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for additional requirements.

B. Inspect and test in accordance with NETA ATS, except Section 4.

C. Adjust equipment and protective devices for compliance with studies and recommended settings.

D. Notify Architect of any conflicts with or deviations from studies. Obtain direction before proceeding.

3.02 CLOSEOUT ACTIVITIES

A. See Section 01 78 00 - Closeout Submittals, for closeout submittals.

B. See Section 01 79 00 - Demonstration and Training, for additional requirements.

C. Training: Include as part of the base bid training for Owner's personnel on electrical safety pertaining to arc flash and shock hazards.
   1. Use site-specific arc flash and shock risk assessment report as training reference, supplemented with additional training materials as required.
   2. Provide minimum of two hours of training.
   3. Instructor: Representative of entity performing study.
   4. Location: At project site.

END OF SECTION

November 14, 2018

StudioJAED
Attn: Parag H. Patel, P.E.
2500 Wrangle Hill Road
Fox Run Office Plaza, Suite 110
Bear, Delaware 19701

RE: DNREC Metering Project
89 Kings Highway
Dover, Delaware 19904

The City of Dover (COD) is pleased to provide an estimate cost of **$45,142.88** to convert existing primary metering to secondary metering. Please refer to the Scope of Work below for responsibilities of COD.

Scope of Work:

- ☑ Installation of new conduit from existing Primary Metering Cabinet location to proposed transformer location.
- ☑ Removal of existing Primary Metering Cabinet and installation of new Primary Pedestal.
- ☑ Installation of new 3-Phase fiberglass Transformer Pad, new primary conductors, primary terminations and new 750 kVA 12470GRDY/7200 x 480Y/277 Volt Transformer.
- ☑ C.T. secondary metering at the transformer & (8) Eight 4" PVC conduit stubs for secondary wiring.
- ☑ All COD Labor, COD Equipment and COD Contracted Labor. Work to be done on weekend.

Any work performed by COD personnel or it's Contracted Labor not listed in Scope of Work, will be an additional charge to State of Delaware, Facilities Management (State).

In addition, please refer to key responsibilities of State and/or State's Electrical Contractor (EC) below.

State/EC Responsibilities:

- ☑ All secondary wiring including connections to de-energized 750 kVA transformer.
- ☑ All electrical inspection's and removal of State-owned equipment including existing primary conductors.
- ☑ Locating of ALL privately-owned utility on property minimum of (1) one week prior to any work being scheduled/performed on property. Privately owned utilities to be marked with the appropriate utility paint colors.
- ☑ State is responsible for signing **JOSEPH R. SMITH, INC. RELEASE OF RESPONSIBILITY OF PRIVATE UTILITIES** & **COD LOCATE AGREEMENT** prior to any work being scheduled/performed on property.

If you have any further questions or need any clarifications, please do not hesitate to contact me at (302) 736-7070. Thank you again for allowing us to service your electrical needs.

Sincerely,

Aren J. Wright
Engineering Crew Leader
City of Dover Electric Department
awright@dover.de.us
Office: (302) 736-7070

JOSEPH R. SMITH, INC.

DNREC, 89 Kings Highway, Dover, Delaware (EE1928 DNREC Metering Project)

RELEASE OF RESPONSIBILITY OF PRIVATE UTILITIES

I, _____ have identified all private underground utilities/facilities located on my property and have PAINTED and FLAGGED those areas.

I understand that J.R. Smith, Inc. will be responsible for any underground utilities/facilities that they cut or damage, within eighteen (18) inches from either side of marking. Anything cut or damaged that is more than eighteen (18) inches from either side of marking, J.R. Smith, Inc. will not be responsible or liable for those damages. I also understand that there will be no exceptions or addendums attached to this release.

PRINT NAME	**SIGNATURE**
DATE	**ADDRESS**
WORK ORDER #	**FOREMAN/CREW LEADER**

DNREC, 89 Kings Highway, Dover, Delaware (EE1928 DNREC Metering Project)

RELEASE OF RESPONSIBILITY OF PRIVATE UTILITIES

I, _____ cannot positively identify the existing private underground utilities/facilities on my property. Understanding that Joseph R. Smith, Inc. will use due caution, I authorize them to proceed with the required work. I also agree that Joseph R. Smith, Inc. will not be responsible nor liable should they damage an unidentified private underground utility/facility. Also, I understand that there will be no exceptions or addendums attached to this release.

PRINT NAME	**SIGNATURE**
DATE	**ADDRESS**
WORK ORDER #	**FOREMAN/CREW LEADER**

The City of Dover

CAPITAL OF THE FIRST STATE

LOCATE AGREEMENT

This confirms the agreement, as defined below, between the Homeowner and the City of Dover Electric Department.

The City of Dover Electric Department will be responsible for contacting Ms. Utility before trenching said underground electric service. The Homeowner will be responsible for accurately locating and properly marking all **privately** owned underground equipment, such as water/sewer lines, non-city owned electric lines, etc. at DNREC 89 Kings Highway, Dover, DE 19904.

This Locate Agreement must be signed and returned to the Engineering Department before any work will begin.

At time of installation, the City will assume the presence or absence of private underground equipment has been determined and marked as necessary. The City will not be liable for damages to private equipment resulting from non-compliance with this agreement.

The intent of this agreement is to save the homeowners, as well as the City, time and money by preventing service interruptions and eliminating the need for costly repairs. The signature below is offered as proof that the Homeowner of the address given below fully understands and confirms this agreement with the City of Dover Electric Department.

Please sign and return white copy as soon as possible, the yellow copy is for your records.

_____
Homeowners Name

_____
Address

_____
City, State, Zip Code

_____
Homeowners Signature

_____
Date

P.O. BOX 475 / City Hall / The Plaza
Dover, Delaware 19903-0475

Monday, August 19, 2019

Mr. Dave Brewster, Construction Project Manager
Division of Facilities Management
Office of Management and Budget
Thomas Collins Building
540 South DuPont Highway, 3rd Floor, Suite 1
Dover, Delaware 19901

Project: **DNREC Metering Project (FY20)**
Location: 89 Kings Highway
Dover, DE 19904

PRIMARY EXTENSION FEE

The City of Dover Electric Department is pleased to provide the Electric Infrastructure Design of primary and secondary extensions for the above project/development.

Pursuant to the City of Dover Municipal Electric Department, Electric Service Handbook, all conduit will be provided and installed by the developer/customer, and all equipment pads are to be installed by the developer/customer according to the City of Dover Electric Department design. Pre-formed pads for small transformers & pedestals will be provided by the City. All conduit must be inspected by the City of Dover Engineering Department prior to back filling. A 24 hr. notice must be given when work is to be completed so the Engineering Department can plan appropriately for project inspections.

Extension Fee of **$47,739.86** is due prior to the city installing equipment. ***This fee is valid for 90 days from the date of this letter***. Please remit fee to City of Dover Electric Department, Attention: Pattee Enss, 860 Buttner Place, Dover, DE 19904.

If you have any further questions or concerns, please feel free to contact me at 736-7070.

Sincerely,

Engineering Crew Leader
City of Dover Electric Department
awright@dover.de.us