ADDENDUM ISSUED BY

ABHA Architects, Inc.
1621 N. Lincoln Street
Wilmington, Delaware 19806

NOTICE: Attach this Addendum to the Project Manual for this project. It modifies and becomes a part of the Contract documents. Work or materials not specifically mentioned herein are to be as described in the main body of the Specifications and as shown on the Drawings.

Acknowledge receipt of the Addendum in the space provided on the Bid Form. This Addendum is being transmitted to all pre-qualified contractors who have received Contract Documents. If there are any problems with legibility or content, please contact ABHA Architects, Inc. (302) 658-6426.

ATTACHMENTS:

A. SPECIFICATION SECTION 00 41 13 – BID FORM

B. SPECIFICATION SECTION 01 23 00 – ALTERNATES

C. SPECIFICATION SECTION 26 32 01 – PACKAGED GENERATOR ASSEMBLIES - ALTERNATE

D. DRAWING P-101.3 - FIRST FLOOR PLUMBING PLAN DEMO AREA D (1 pg.)

E. DRAWING E-113.3 - FIRST FLOOR POWER PLAN AREA D & E (1 pg.)

F. DRAWING E-151 - SITE PLAN ELECTRICAL (1 pg.)

G. DRAWING E-501 – DETAILS ELECTRICAL (1 pg.)

GENERAL INFORMATION:

1. Provide a alternate to substitute 250kw generator to Bid Package A.

QUESTIONS AND ANSWERS:

2. The plumbing detail A1 on P-101.3 does not match the plumbing layout on drawing CR-102. The sanitary sewer, fire water and domestic water line layouts, both new and existing, do not match. I believe the layout on CR-102 is the correct layout.
    a. **CR-102 is the correct layout.**

3. Is there a specification for the illuminated letters and logo and the digital displace shown on Detail C2 of A-521? Is this work included in this contract?
    a. **Signage will be part of a separate package and is not included in this contract.**

4. We need to know how to finish the flooring in the offices where the sanitary sewer trench is run. I assume that these existing offices need to be ready for use after the summer.
    a. **The office area has old carpet tile. Remove the tile before cutting and then reinstall. Terrazzo through hall will be patched with a temporary (flush) concrete patch to match existing terrazzo height.**

5. Builders Risk Insurance shall be carried by the contractor per section 009500-1.18. However, other sections of the specification state that this insurance shall be carried by the Owner. Please clarify.
    a. **BSD has builders risk insurance.**

6. The SWM area, including the bio-retention basin (pre, during and post-construction), appears to be outside the limits of this contract. See plan and CS-108. Is this correct?
    a. **The bio retention storm water management area is not in the scope of this contract.**

7. The limits of work shown drawings G-121 and C-001 are slightly different, but do affect the scope of work. We are using the limits shown on drawing C-001 – is this correct?
    a. **Drawing G-121 is for reference only, use drawing C-001 for limits of work related to civil scope.**

8. Please identify a material stockpile area – for topsoil and the Allowance No. 1 and No. 2 materials?
    a. **No stockpile area has been identified. If a stockpile is needed, its location can be determined during construction in coordination with the school district and the certified construction reviewer supplied by the owner.**

9. Is there a space inside the school that can be used in lieu of a construction trailer during the summer?
    a. **An area in school can be provided for contractors.**

10. Are we correct in assuming that E&S controls shown outside the limits of Bid Package A, as shown on drawing C-001, are not required under this contract?
    a. **All of the sediment controls shown on sheet CS-102 with the exception of the five inlet controls devices in the front parking lot should be installed as part of this contract. Of the additional sediment controls shown on sheet CS-103, only those within the limits of the current contract shall be installed as part of this contract.**

11. Please identify an area to be used for parking during the fall when the new electrical gear is being installed.
    a. **Parking area once school is open will be the large open lot to the north of the school. The lot is only 60% filled during normal school days.**

12. Note 2 on E-151 is missing.
    a. **See drawing E-151 attached to this addendum for Note 2.**

13. The drawings show that the power company will provide the new overhead electric and poles, new primary transformer and pad, new primary cable to transformer and removal of abandoned primary cable. Will the owner pay for any charges imposed by the power company for these services?
    a. If there is a fee from the power company the Owner will pay.

14. Is the Commissioning Agent provided by the Owner?
    a. Commissioning agent by owner.

15. In Specification Section 01 81 13, 1.1.E, it states that we are to assume credits in the "?Y" and "?" columns are being pursued. Shouldn't this be column "Y"?
    a. Yes, assume credits in the "Y" column in the LEED project checklist in Section 01 81 13.

CHANGES TO PROJECT MANUAL

SECTION 01 81 13 – SUSTAINABLE DESIGN REQUIREMENTS

a. Page 01 81 13-1 Article 1.1 Paragraph E
   Change to Read :
   E. A copy of the LEED Project checklist is attached at the end of this Section for information only. Assume credits in the 'Y' column are being pursued.

SECTION 00 41 13 – BID FORM

a. DELETE 00 41 13 - BID FORM and REPLACE with 00 41 13 - BID FORM attached to this Addendum.

SECTION 01 23 00 - ALTERNATES

a. ADD 01 23 00 - ALTERNATES attached to this Addendum.

SECTION 26 32 01 - PACKAGED GENERATOR ASSEMBLIES - ALTERNATE

a. ADD 26 32 01 - PACKAGED GENERATOR ASSEMBLIES - ALTERNATE attached to this Addendum.

CHANGES TO DRAWINGS

Plumbing Drawings

a. Delete Sheet P-101.3, and replace with Sheet P-101.3 dated 4/27/2018, attached to this Addendum.

Electrical Drawings

a. Delete Sheet E-113.3, and replace with sheet E-113.3 dated 4/27/2018, attached to this Addendum

b. Delete Sheet E-151, and replace with sheet E-151 dated 4/27/2018, attached to this Addendum

c. Delete Sheet E-500, and replace with sheet E-500 dated 4/27/2018, attached to this Addendum

END OF ADDENDUM #2

SECTION 00 41 13

BID FORM – BSD CONTRACT # BSD18016

FOR BIDS DUE: _____

TO: BRANDYWINE SCHOOL DISTRICT
1311 BRANDYWINE BLVD.
WILMINGTON, DE. 19809

FOR: CLAYMONT ELEMENTARY SCHOOL
BID PAC A
3401 GREEN ST.
CLAYMONT, DE. 19703

FOR CONTRACT: GENERAL CONSTRUCTION

NAME OF BIDDER: _____

DELAWARE BUSINESS LICENSE NO.: _____

(A copy of Bidder's Delaware Business License must be attached to this form.)

TAXPAYER ID NO.: _____

(OTHER LICENSE NOS.): _____

PHONE NO.: ( ) _____ FAX NO.: ( )_____

EMAIL ADDRESS: _____

The undersigned, representing that he has read and understands the Bidding Documents, including the complete Project Manual and the Drawings as listed in the Table of Contents, all dated April 5, 2018, and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

BASE BID:

_____

(expressed in words)

($ _____)

(expressed in figures)

BID FORM

ADDITIVE ALTERNATE NO.1 Provide new 250kw/312kva generator in lieu of 125kw/156kva generator

Add _____
(expressed in words)

($_____)
(expressed in figures)

ALLOWANCE NO. 1: PROVIDE PRICE FOR 400 TONS OF BORROW TYPE C AS DESCRIBED IN SECTION 312000 – EARTHMOVING

_____
(expressed in words)

($ _____)
(expressed in figures)

ALLOWANCE NO. 2: PROVIDE PRICE FOR 500 TONS OF GRADED AGGREGATE TYPE B FOR UNDERCUT EXCAVATION AS DESCRIBED IN SECTION 312000 – EARTHMOVING.

_____
(expressed in words)

($ _____)
(expressed in figures)

BID FORM

UNIT PRICES

Unit prices conform to applicable project specification project. The difference between Add or Deduct Unit Prices of the same item may not exceed 15%. Refer to the specifications for a complete description of the following Unit Prices:

UNIT PRICE NO. 1: BORROW TYPE C (For quantity described in Allowance No.1)

Removal of unsuitable soils (haul offsite) and replacement with imported Borrow Type C (place and compact)

Price per ton

Add:_____ Deduct:_____

UNIT PRICE NO.2: GRADED AGGREGATE BASE COURSE TYPE B FOR UNDERCUT EXCAVATION (for quantity described in Allowance No.2)

Removal of unsuitable soils (haul offsite) and replacement with imported Borrow Type C (place and compact)

Price per ton

Add:_____ Deduct:_____

UNIT PRICE NO. 3: GEOTEXTILE STABILIZATION FABRIC FOR PLACEMENT BENEATH UNDERCUT EXCAVATION AS DESCRIBED IN SECTION 31 20 00 – EARTHMOVING

Removal of unsuitable soils (haul offsite) and replacement with imported Borrow Type C (place and compact)

Price per square foot

Add:_____

BID FORM

SIGNATURE FORM

I / We acknowledge Addendas Numbered _____ and the price(s) submitted include any cost / schedule impact they may have.

This bid shall remain valid and cannot be withdrawn for 30 days from the date of opening of bids (60 days for School Districts and Department of Education), and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid.

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to achieve substantial completion of all the work within _____ calendar days of the Notice to Proceed.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am / We are an Individual / a Partnership / a Corporation

By: _____ Trading as: _____

(Individual's / General Partner's / Corporate Name)

_____

(State of Corporation)

Business Address: _____

_____

Witness: _____ By: _____

(Authorized Signature)

(SEAL) _____

(Title)

Date: _____

Attachments:

Sub-Contractor List.
Non-Collusion Statement.
Affidavit(s) of Employee Drug Testing Program
Bid Security.

BID FORM

SUBCONTRACTOR LIST

In accordance with Title 29, Chapter 6962 (d)(10)b Delaware Code, the following sub-contractor listing must accompany the bid submittal. The name and address of the sub-contractor must be listed for each category where the bidder intends to use a sub-contractor to perform that category of work. In order to provide full disclosure and acceptance of the bid by the Owner, it is required that bidders list themselves as being the sub-contractor for all categories where he/she is qualified and intends to perform such work. This form must be filled out completely with no additions or deletions. Note that all subcontractors listed below must have a signed Affidavit of Employee Drug Testing Program included with this bid.

SUBCONTRACTOR CATEGORY	SUBCONTRACTOR	ADDRESS (City & State)	SUBCONTRACTOR Taxpayer ID # or DE Business License #

BID FORM

NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date.

All the terms and conditions of this Contract have been thoroughly examined and are understood.

NAME OF BIDDER: _____

AUTHORIZED REPRESENTATIVE
(TYPED): _____

AUTHORIZED REPRESENTATIVE
(SIGNATURE): _____

TITLE: _____

ADDRESS OF BIDDER: _____
_____
_____

PHONE NUMBER: _____

Sworn to and Subscribed before me this _____day of _____, 20__

My Commission expires :_____ NOTARY PUBLIC _____

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

BID FORM

EMPLOYEE DRUG TESTING PROGRAM

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite that complies with this regulation:

CONTRACTOR/SUBCONTRACTOR
NAME: _____

CONTRACTOR/SUBCONTRACTOR
ADDRESS: _____
_____
_____

AUTHORIZED REPRESENTATIVE
(TYPED): _____

AUTHORIZED REPRESENTATIVE
(SIGNATURE): _____

Sworn to and Subscribed before me this _____day of _____, 20__

My Commission expires :_____ NOTARY PUBLIC _____

END OF DOCUMENT

SECTION 01 23 00
ALTERNATES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Description of Alternates.

B. Procedures for pricing Alternates.

C. Documentation of changes to Contract Sum and Contract Time.

1.02 RELATED REQUIREMENTS

A. Document 00 21 13 - Instructions to Bidders: Instructions for preparation of pricing for Alternates.

1.03 BASE BID

A. The Base Bid shall consist of all work shown or specificed in the contract documents, exclusive of any additive alternates specified herein.

1.04 ACCEPTANCE OF ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.

B. Coordinate related work and modify surrounding work to integrate the work of each Alternate.

1.05 SCHEDULE OF ALTERNATES

A. State in the Bid Form the amount to be added to or deducted from the Base Bid amount.

B. The description of Alternates contained herein is in summary form. Detailed requirements for materials and execution shall be as specificed in other sections and as shown on drawings:

1. Alternate No. 1 - Provide 250kw Generator:
    a. Base Bid: Provide 125kw Natural Gas Generator
    b. Alternate: Provide 250kw Natural Gas Generator and Level 2 sound enclosure in lieu of 125kw Natural Gas Generator.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 26 32 01
PACKAGED GENERATOR ASSEMBLIES – ALTERNATE

PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

A. Extent of Generator work is indicated by drawings, schedules and specifications.

B. Types of Generator equipment required for project include the following:

Natural Gas generators.

Weatherproof Enclosure

Battery Charger

1.2 SUBMITTALS

A. Product Data: Submit manufacturer's data on engine driven electric generator systems and components.

B. Shop Drawings: Submit dimensioned drawings of engine driven generator units and accessories, including but not limited to the following:

1. System schematic diagram showing all piping and wiring interconnections, sizes and quantities.
2. Installation fact sheet giving fuel, coolant, lubricating oil, exhaust, ventilation, and other pertinent requirements.
3. Complete piping, conduit, electric power and control schematics, and flow diagrams.
4. Engine generator and enclosure elevations (1/10th scale or larger) showing the locations, size, and dimensions of all required Owner interfaces to the package.
5. Ladder type schematic electrical diagrams with legend identifying all devices on diagrams.
6. Factory certified horsepower and fuel consumption data.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Manufacturer: Subject to compliance with requirements, furnish generator of one of the following:

Caterpillar, Inc.

MTU Onsite Energy

Generac Industrial Power

Kohler Co.

Cummins Power Generation

2.2 ENGINE GENERATOR UNIT

A. The following specifications are designed and written around the characteristics of a Generac Generator and represent the minimum requirements for all other listed manufacturers.

B. Engine Generator: Furnish an alternating current generator unit as indicated in contract documents, with a standby rating of 250KW/312KVA @ 277/480 volt, 3 phase, 4 wire, 60 Hertz, 0.8 percent power factor. Furnish all the following components, accessories and construction features as required for a complete and satisfactory operating system. 3 phase, 4 wire, 60 Hz, 0.8 percent power factor, natural gas engine. All accessories and the following components and construction features as required for a complete and satisfactory operating system.

2.3 ENGINE

A. The engine shall be six (6) cylinder, 2 or 4 cycle, water cooled, turbo-charged, after-cooled, with not less than 865 cubic inch displacement. Engine speed shall be governed by a gear driven governor to maintain generator frequency within 0.5% Hertz from no load to 100% rated load.

B. A 24-volt D.C., negative ground electric starting system consisting of a minimum of 625 AMPs cranking current at an ambient temperature of 0 deg. F, A 95 AMP battery alternator, battery racks and a complete set of battery cables.

C. Batteries shall be selected and furnished to comply with NFPA 110, Level 1 starting requirements. Battery shall be 12-volt, maintenance free, lead-calcium hybrid type with sealed cells. The batteries shall be commissioned according to battery manufacturer's instructions.

2.4 ALTERNATOR

A. The alternator shall be four (4) pole, rotating field, self-ventilated, drip proof construction. Class "H" insulation system per NEMA MG1-1.66, with standard 130 deg. C temperature rise at standby power rating.

B. Furnish skewed rotor and 2/3 pitch windings to smooth voltage wave form, minimize field heating and voltage harmonics.

C. Rotor shall be a dynamically balanced assembly, with a single bearing and direct coupled to engine by a flexible drive disc. Furnish full amortisseur (damper) windings to help minimize voltage deviations and heating effects under unbalanced load conditions.

D. The voltage regulator shall be solid state and furnish torque-matched underfrequency compensation to optimize motor starting performance and to assist the engine during transient load conditions. Voltage regulation from no load to full load shall be +/- 2%.

E. The exciter shall be a permanent magnet, field rotating, brushless armature and shall power the main alternator field windings through shaft mounted, three (3) phase, full wave silicon diode rectifiers. Semi-conductor surge suppressors shall protect the diodes from transient overvoltages induced by load surges.

F. The shunt excitation system shall derive its power from the main output of the alternator.

2.5 CONTROL PANEL

A. Furnish a unit-mounted, automatic start, level 1 control panel, with suitable vibration isolators. Panel shall consist of, but not be limited to, the following:

Equipment

1. Errorproof wiring harness for electrical connections.
2. Lamp test switch.
3. Cyclic cranking
4. Overcrank and starter unmesh protection.
5. Two-wire remote start/stop terminals.
6. AC interlock to prevent starter re-engagement with engine running.
7. Overspeed detection.
8. Voltage-adjust Rheostat +/- 5%.
9. Run - OFF/RESET - Auto switch.
10. Emergency stop pushbutton.
11. Low coolant level detection.

12. D.C. circuit protection.
13. Panel lamps (2).
14. Cool-down timer (5 minutes)
15. Alarm horn and silencing switch.

Instruments

1. A.C. Voltmeter, 3-1/2", 2% full scale accuracy
2. A.C. Ammeter, 3-1/2", 2% full scale accuracy.
3. A.C. Frequency meter, 3-1/2", 0.5% full scale accuracy.
4. D.C. Voltmeter.
5. Engine water temperature.
6. Engine oil temperature.
7. Running time meter.
8. Phase selector switch, seven (7) position.

Indicator Lamps

1. Overcrank
2. Low oil pressure
3. High engine temperature
4. Overspeed
5. Emergency stop
6. Not-In-Auto
7. System ready
8. Low battery volts
9. Battery charge fault
10. Low fuel.
11. Prealarm high engine temperature
12. Prealarm low oil pressure.
13. Low water temperature.
14. Auxiliary alarm
15. Auxiliary prealarm
16. Air damper.

B. Furnish and install all required control wiring, fuses, fuse blocks, terminal blocks, nameplates, fault contacts, auxiliary contacts, and metering current transformers.

2.6 COOLING SYSTEM

A. Engine shall have a unit-mounted radiator with engine-driven cooling fan. The radiator shall be sized to adequately cool the engine under full load conditions as outlined, in a 125 degrees F ambient temperature and have adequate capacity for additional heat radiated by engine. A fan and radiator guard shall be included.

B. Anti-freeze shall be a 50% mixture of ethylene glycol and water and shall contain a suitable rust inhibiting agent and be installed in the cooling system. The unit shall be furnished with, as a minimum total replacement, an additional supply of 50% ethylene glycol and water coolant mixture.

2.7 EXHAUST SYSTEM

A. Furnish one (1) critical grade silencer, with a side inlet and end outlet configuration. Inlet and outlet shall be NPT thread.

B. Silencer shall include a condensate drain plug and be mounted on the enclosure roof and piped to the engine by means of a stainless-steel exhaust flexible piping.

C. Silencer outlet end shall have a 90-deg. exhaust pipe extension terminating vertically, with a counterbalanced rain cap.

2.8 ENGINE HEATERS AND ACCESSORIES

A. Coolant heater shall be a 2500-watt, 208-volt, single phase thermostatically controlled device. The heater shall be furnished, installed and wired at the factory. Furnish and install a low water temperature alarm contact to close when water temperature falls below 50 deg. F. Interconnect the alarm contact device to the proper alarm terminals in the generator control panel and remote alarm annunciator.

B. Lube oil heater shall be a 150 watt, 120 volts, single phase thermostatically controlled device. The heater shall be furnished, installed and wired at the factory.

C. Battery heaters shall be a thermostatically controlled, low wattage pad type device, suitable for operation on a 120-volt, single phase circuit.

2.9 BATTERY CHARGER

A. Charger shall be a fully automatic, SCR, float/equalize battery charger. The 24-volt, 10 AMP, silicon-controlled rectifier shall be a constant voltage, current limiting charger designed to be permanently connected for float/equalize charging of lead acid starting batteries. The charger shall furnish automatic "Fload-to-Equalize" operation with individual potentiometer adjustments and shall charge a minimum of 12 lead-acid maintenance free battery cells.

B. Charger shall be furnished with an oversized transformer and heatsink to allow for constant current charging at 10 AMPs, up to the equalize voltage settings.

C. The charger shall be furnished in a NEMA 1, general purpose enclosure, with the following equipment, components and features:

1. DC voltmeter
2. DC ammeter
3. ON/OFF power switch
4. Input and output fuse protection and terminal blocks.
5. Operational monitors shall provide visual output as well as individual Form C relay contacts for the following:
    a. Battery Charger Fault: N.O. contacts close on loss of A.C. input or loss of D.C. output.
    b. Low Battery Voltage: N.O. contacts close on low battery voltage.
    c. High Battery Voltage: N.O. contacts close on high battery voltage, contacts not used.

D. The charger shall be a wall-mounted unit suitable for operation on a 120-volt, single phase power source.

2.10 WEATHER RESISTANT OUTDOOR ENCLOSURE

A. The diesel engine generator and its required accessories shall be furnished with a factory installed, base mounted, maintenance free, pre-painted forest green outdoor enclosure.

B. Enclosure shall be made of heavy gauge aluminum, sound attenuated to reduce generator set noise to 85 DBA @ 23', and shall totally enclose the generator set, its accessories and sub-base fuel oil storage tank.

C. Design Criteria:

1. Rigidity wind test equal to 115 MPH.
2. Roof load equal to 50 lbs. per sq. ft.
3. Rain test equal to 4" per hour.
4. Dimensions: Normal 18' long x 7' wide x 9' high.

D. Enclosure shall consist of a roof, underframe, two (2) side walls, and two (2) end walls, of prepainted aluminum construction and floor.

1. Roof: One-piece cambered roof sheet of .040" thick aluminum with 1/8" extruded aluminum recessed side and end rails.
2. Roof bows: Extruded aluminum "I" beams spaced with roof reinforced to carry silencer load.
3. Side and End Walls: Panels shall be .040" thick aluminum sheet, mill-prepainted, riveted 3" on center.
4. Floor and Underframe: Enclosure will have two (2) "I" beam longitudinal skids with fabricated steel cross members on 12" centers. The diesel generator set is mounted through vibration isolators to steel tapping plates. A full steel floor shall be provided.
5. Door Frames: Welded aluminum frame consisting of extruded alloy 1/8"x4-1/2"x1-1/2", riveted to side panels.

E. Enclosure Accessories:

1. Four (4) steel lift rings welded to the underframe.
2. Louvers: Motorized intake and gravity discharge louvers shall be all aluminum construction riveted into aluminized steel frame forming a rigid, water-resistant assembly. Louvers shall be properly sized to allow sufficient engine combustion and radiator cooling air flow with a 0.5" H/2/0 maximum restriction. Birdscreen shall be provided on inlet and exhaust openings.
3. Air Plenums: Furnish vertical intake and discharge 90 deg air plenums for intake and cooling air.
4. Insulation: Furnish 3" acoustic insulation on walls and ceiling, line with perforated metal lining.
5. Access Doors: Furnish four (4) access doors, two (2) on each side of the enclosure, each 38" wide x 80" high with padlockable handles, for servicing and operation of generator set and accessories.
6. Exhaust Hardware: The enclosure shall be furnished with silencer supports, brackets, rain collars and rain shields.
7. Generator support panel “GP”, located in Gen 1 only, shall be a weatherproof, 12-pole, 100-Amp, 120/208 volt, single phase, 3 wire + ground loadcenter. Loadcenter shall consist of the following circuits:
   a. Circuit No. 1: 20A/1P C.B. – Battery Charger
   b. Circuit No. 3: 20A/1P C.B. – Enclosure Receptacles
   c. Circuit No. 4: 20A/1P C.B. – Battery Heater Pads
   d. Circuit No. 5: 20A/1P C.B. – Louver Operator
   e. Circuit No. 6: 20A/2P C.B. – Engine Coolant Heater

F. Furnish and install all boxes, conduit and wire required for a complete and operating enclosure.

2.11 VIBRATION ISOLATORS

A. Provide rubber-in-shear vibration isolators for mounting between engine-generator skid and the enclosure. The isolators shall be 95% efficient and sized in accordance with equipment manufacturer's requirements.

2.12 CERTIFICATION

A. This Contractor shall consult and cooperate with the factory authorized dealer in making arrangements for a load bank of proper size to certify this unit's power rating, stability, voltage and frequency regulation for 25%, 50%, 75% and 100% load over a four (4) hour period, with a one (1) hour period for each load increment.

B. This Contractor shall provide certification, testing and maintenance in accordance with NEC Article 700-4. These records and reports shall be placed in a looseleaf binder and turned over to the Owner for his continued use.

PART 3 – EXECUTION

3.1 INSTALLATION OF ENGINE GENERATOR SYSTEM

A. Install emergency engine generator sets as indicated in contract documents, and in accordance with the equipment manufacturer's written instructions, Division 26 Section 260000 under the listing "SPECIAL ENGINEERING SERVICES', and with recognized industry practices, to ensure that engine generator sets fulfill requirements. Comply with NFPA standards pertaining to installation of emergency engine generator systems and accessories.

B. Coordinate with other work, including fuel supply, piping and accessories as necessary to interface installation of emergency generator system work with other work.

C. Connect fuel piping to emergency generator equipment and comply with manufacturer's instructions where not otherwise indicated.

D. Perform emergency generator lubrication, equipment startup as specified in Division 26, Section 260000 under the listing "LUBRICATION' and "EQUIPMENT START-UP".

E. Instruct owner's personnel in the operation and maintenance of Generator as specified in Division 26 Section 260000 under the listing "Operation and Maintenance Instructions".

F. After completion of the installation, testing and instruction, this Contractor shall leave the site with a minimum of 500 gallons of diesel fuel in the main tank.

3.2 GROUNDING

A. Provide equipment grounding connections, sufficiently tight to assure a permanent and effective ground, for system components as indicated in contract documents.

3.3 TESTING

A. Upon completion of installation of engine generator system and after building circuitry has been energized with normal power source, test engine generator to demonstrate emergency capability and compliance with requirements. Where possible, field correct malfunctioning units, then retest to demonstrate compliance.

END OF SECTION