

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**



## **TOWN OF COLUMBIA**

323 Jonathan Trumbull Highway, Columbia, CT 06237  
(860) 228-0110 Fax: (860) 228-1952

The Town of Columbia is accepting sealed bids for the RFP for an Emergency Generator Replacement at the Horace W. Porter School (HWP) at the Town Administration Office at Town Hall, 323 Route 87, Columbia, Connecticut, until **3:00 PM on March 31, 2020**. Thereafter, the names of those submitting qualifications and proposals will be read aloud.

The RFP documents will be available from the Town Administration Office at Town Hall, 323 Route 87, Columbia, Connecticut, telephone number (860) 228-0110 or the Town's website, [www.columbiact.org](http://www.columbiact.org). After bids are received, the Town Administrator may analyze whether vendors have submitted comparable bids and meet the requirements called for. In reviewing the bids, the Town Administrator may consider the past performance, financial responsibility, and sales and service experience of the vendors. The Town reserves the right to reject any or all bids, to waive any defects in same, or to choose to make purchases other than strictly in accordance with price considerations, and/or to choose other than the lowest bidder, if it be deemed in the best interest of the Town of Columbia.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**TABLE OF CONTENTS**

INTRODUCTION.....	6
SECTION 1.0 – GENERAL REQUIREMENTS .....	6
SECTION 2.0 – NEW GENERATOR SYSTEM (Horace W. Porter School): .....	7
KEY EVENT DATES .....	7
OBTAINING RFP DOCUMENTS .....	7
QUESTIONS ABOUT PROPOSAL REQUIREMENTS .....	7
SPECIAL INSTRUCTIONS .....	8
RFQ&P RESPONSE SUBMISSION INSTRUCTIONS .....	8
PRESUMPTION OF CONTRACTOR BEING FULLY INFORMED .....	9
INTERPRETATION OF ACCEPTABLE WORK.....	9
TAX EXEMPTIONS.....	9
INSURANCE .....	9
1) General Conditions: .....	9
2) Insurance Limits and Coverage:.....	11
INDEMNIFICATION AND HOLD HARMLESS.....	11
PERMITS.....	12
FAIR EMPLOYMENT PRACTICES .....	12
TERMS AND CONDITIONS OF CONTRACT .....	12
AWARDING THE CONTRACT .....	12
GENERAL INSTRUCTIONS .....	13
INSTRUCTIONS FOR CONTRACTORS SUBMITTING RESPONSES.....	13
EVALUATION AND SELECTION CRITERIA.....	13
SELECTION PROCEDURES.....	13
RESPONSE FORM # 1 REQUIRED RESPONSE.....	14
RESPONSE FORM #2 REQUIRED RESPONSE.....	15
RESPONSE FORM #3 REQUIRED RESPONSE.....	16
EXHIBIT A – GENERAL DESCRIPTION OF WORK, MATERIALS AND SCOPE OF SERVICES.....	17
PART 1 – GENERAL.....	17
1.1 Description of Work.....	17
1.2 Submittals .....	17
PART 2 – NEW GENERATOR SYSTEM (Horace W. Porter School) .....	17
2.1 Diesel Generator Set:.....	18

**Request for Proposals (RFP)  
Emergency Generator Replacement for Horace W. Porter School  
Columbia, CT  
Solicitation Number 001-2020**

2.2	Source Quality Control:.....	18
2.3	Generator Set Performance:.....	18
2.4	Engine: .....	19
2.5	AC Generator: .....	21
2.6	Generator Set Control:.....	22
2.7	Base:.....	26
2.8	Exhaust System: .....	27
2.9	Generator Set Auxiliary Equipment and Accessories: .....	27
2.10	Outdoor Generator-Set Enclosure:.....	29
2.11	Sub-Base Tank:.....	29
2.12	Factory Testing:.....	29
PART 3 – EXECUTION .....		30
3.1	Examination:.....	30
3.2	Installation .....	30
3.3	Connections: .....	30
3.4	Identification:.....	30
3.5	On-Site Acceptance Test:.....	31
3.6	Owner Training .....	31
3.7	Service and Support.....	31
PART 4-SCOPE OF WORK .....		32
4.1	Project Details.....	32
4.2	Concrete.....	32
4.3	Trenching .....	33
4.4	Electrical.....	34
4.5	Crane.....	34
EXHIBIT B: DRAWINGS.....		35
2020 Generator Drawing 1: Emergency Generator Replacement Site Plan.....		36
2020 Generator Drawing 2: Generator Replacement Wiring.....		37
2020 Generator Drawing 3: Generator Replacement Wiring.....		38
2020 Generator Drawing 4: Generator Replacement Concrete Pad.....		39
EXHIBIT C – SAMPLE CONTRACT FOR EMERGENCY GENERATOR REPLACEMENT FOR HORACE W. PORTER SCHOOL.....		40
PART 1 – GENERAL.....		41

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

1.1	Description of Work.....	41
1.2	Submittals .....	41
PART 2 – NEW GENERATOR SYSTEM (Horace W. Porter School) .....		41
2.13	Diesel Generator Set:.....	42
2.14	Source Quality Control:.....	42
2.15	Generator Set Performance:.....	42
2.16	Engine: .....	44
2.17	AC Generator: .....	45
2.18	Generator Set Control:.....	46
2.19	Base:.....	51
2.20	Exhaust System: .....	51
2.21	Generator Set Auxiliary Equipment and Accessories: .....	52
2.22	Outdoor Generator-Set Enclosure:.....	54
2.23	Sub-Base Tank:.....	54
2.24	Factory Testing:.....	55
PART 3 – EXECUTION .....		55
3.1	Examination: .....	55
3.2	Installation .....	55
3.3	Connections: .....	55
3.4	Identification:.....	56
3.5	On-Site Acceptance Test:.....	56
3.6	Owner Training .....	56
3.7	Service and Support.....	56
PART 4-SCOPE OF WORK .....		57
4.1	Project Details.....	57
4.2	Concrete.....	58
4.3	Trenching .....	58
4.4	Electrical.....	59
4.5	Crane.....	59
PART 5 - CONTRACT TERMS, STANDARDS AND COMPENSATION .....		60
5.1	Technical Standards.....	60
5.2	Term of Contract.....	60
5.3	Compensation.....	60

**Request for Proposals (RFP)  
Emergency Generator Replacement for Horace W. Porter School  
Columbia, CT  
Solicitation Number 001-2020**

5.4	Management and Administration of the Contract .....	61
5.5	Relationship Between the Parties.....	61
5.6	Indemnification and Hold Harmless Contract .....	62
5.7	Insurance .....	62
5.8	Ethics and Conflict of Interest.....	63
5.9	Events of Default and Remedies.....	64
5.10	Election of Remedies .....	64

s:\selectman\mark walter\purchasing & rfq's and rfp's\columbia rfp's\horace porter generator\rfp emergency generator at horace porter school town of columbia\_march 2020\_3.10.20jcl.docx

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**INTRODUCTION**

THE TOWN OF COLUMBIA is soliciting bids from Qualified firms (including individuals) interested in providing an emergency generator (hereinafter "Contractor" or "Firm") to the TOWN OF COLUMBIA to replace the existing 1993 100KW emergency generator with a new 150KW generator at the Horace W. Porter School, 3 Schoolhouse Rd. Columbia CT. 06237. The generator is to be removed and the new generator is to be fully installed and completely operational and free of defects or corrections upon completion of the project.

**SECTION 1.0 – GENERAL REQUIREMENTS**

**1.1 Scope:**

- A. The Town of Columbia is soliciting bids for the purchase, delivery and installation of a replacement to the existing Cummins standby emergency generator at the Horace W. Porter School, 3 Schoolhouse Rd. Columbia CT. 06237
  
- B. Generator must be new and meeting the requirements of this specification. Include all acceptance tests and owner training of a complete and operable Emergency/Standby electric generating system, including all devices and equipment specified herein, as shown on the drawings, or required for the service. Equipment shall be new, factory tested, and delivered ready for installation

**1.2 Approved Manufacturers:**

- A. Cummins Power Generation, Minneapolis, Minnesota.
- B. Caterpillar Power Systems, Deerfield, Illinois.

**No other manufactures will be allowed!**

**1.3 – Submittals:**

**New Standby Emergency Generator**

- A. Within 10 days after award of contract, provide six sets of the following information for review:
  - Manufacturer's product literature and performance data, sufficient to verify compliance to specification requirements.
  - A paragraph by paragraph specification compliance statement, describing the differences between the specified and the proposed equipment.
  - Manufacturer's certification of prototype testing.
  - Manufacturer's published warranty documents.
  - Shop drawings showing plan and elevation views with certified overall dimensions, as well as wiring interconnection details.
  - Interconnection wiring diagrams showing all external connections required; with field wiring terminals marked in a consistent point to point manner.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**Electrical Enclosure**

- A. Within 10 days after award of contract, provide six sets of the following information for review:
- Manufacturer's product literature for the Enclosure including certification of 2-hour fire rating.

**1.4 – Warranty:**

- A. Shall be provided for all products against defects in materials and workmanship for two (2) years period from the start-up date. Warranty must cover parts, labor and travel time. Warranty deductibles for are not allowed!

**1.5 – Single Supplier:**

- A. The installer/supplier shall be the manufacturer's authorized distributor, who shall provide initial start-up services, conduct field acceptance testing, and warranty services. The supplier shall have 24-hour/365-day a year service availability and factory trained service technicians authorized to perform warranty service on all products provided.

**1.6 – Operator Manuals:**

- A. One (1) set of operators and spare parts manuals shall be provided for all system equipment. The manuals shall include outline, interconnection, wiring, and control drawings accurately describing the equipment provided. Provide ladder logic for all programmable logic controllers in the system.

**1.7 – Site Conditions:**

- A. Ambient temperature: 0 deg. F to 104 deg. F  
B. Relative humidity: 0 to 95 percent (%)  
C. Altitude: sea level to 11,237 feet

**SECTION 2.0 – NEW GENERATOR SYSTEM (Horace W. Porter School):**

See Exhibit A, GENERAL DESCRIPTION OF WORK, MATERIALS AND SCOPE OF SERVICES.

**KEY EVENT DATES**

Advertisement of RFP	<b>March 11, 2020</b>
Public Opening of Responses	<b>3:00 PM, March 31, 2020</b>
Contract Awarded (Not Definite)	<b>April 2, 2020</b>

**OBTAINING RFP DOCUMENTS**

Specifications and RFP documents may be obtained from The RFP documents will be available from the Town Administration Office at Town Hall, 323 Route 87, Columbia, Connecticut, telephone number (860) 228-0110 or the Town's website, [www.columbiact.org](http://www.columbiact.org).

**QUESTIONS ABOUT PROPOSAL REQUIREMENTS**

Respondents with questions regarding the submission requirements may contact the following purchasing agent of the Town of Columbia by email: Mark Walter, [townadministrator@columbiact.org](mailto:townadministrator@columbiact.org). All

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

questions should be **submitted in writing at least three (3) days** before the bid opening.

**SPECIAL INSTRUCTIONS**

- A. Contractors can visit the location to become familiar with all aspects and conditions of the job covered by this contract. **Site inspections can be arranged between 9:00 a.m. and 2:00 p.m. from March 16, 2020 through March 19, 2020.** Appointments can be made by contacting Michael Sylvester, Facilities Manager, at (860) 228-9493, extension 182, or [msylvester@hwporter.org](mailto:msylvester@hwporter.org).
- B. All questions or inquiries must be **submitted in writing at least three (3) days** before bid opening.
- C. Project is to be completed no later than **August 21, 2020** or on an approved schedule by the Columbia Board of Education.
- D. Concrete pad removal and replacement is not required as part of the base bid, it is included as an Add/Alternate price.
- E. Trenching for new electrical feeders into school building is not required as part of the base bid, it is included as an Add/Alternate price.
- F. Electrical piping and feeders to school building is not required as part of the base bid, it is included as an Add/Alternate price.
- G. Crane service for removal of existing generator and installation of new generator is not required as part of the base bid, it is included as an Add/Alternate price
- H. A quote for trade in pricing of the existing generator is also included as an Add/Alternate price.
- I. Provide all manual both service & parts.

**RFQ&P RESPONSE SUBMISSION INSTRUCTIONS**

- A. **One (1) original and two (2) copies** of all responses must be submitted in a sealed envelope clearly marked " Emergency Generator Replacement for Horace W. Porter School". If forwarded by mail or courier, the sealed envelope must be addressed to "Town Administrator Town of Columbia, 323 Route 87, Columbia, Connecticut 06237". Responses must be at the office of the Town Administrator by the time of the Public Opening of Responses date noticed in Section 2 titled Key Event Dates. Postmarks are NOT an acceptable waiver of this policy. Corrections and/or modifications received after the first response is publicly opened will NOT be accepted. Late submittals will be rejected.
- B. Ditto marks or words such as "SAME" on the Response Form are NOT considered writing and must not be used.
- C. All information must be submitted in ink or typewritten. Mistakes may be crossed out and corrections inserted. Corrections must be initialed by the person signing the response.
- D. Responses are considered valid for ninety (90) days after response(s) are opened. Contractors submitting responses may not withdraw, cancel or modify their response for a period of ninety (90) days after response(s) are opened.
- E. Responses must be signed by an authorized person representing the legal entity of the firm submitting the response.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

- F. The inability to meet any specified requirements(s) must be stated in writing and attached to the response form or written on the response form.
- G. Any and all exceptions of the respondent to the terms and specifications of this RFP shall be made in writing and submitted in full with the proposal.
- H. The respondent shall bear all costs associated with submitting its RFP.
- I. Any and all written RFP documents submitted to the Town shall be property of the Town and therefore shall be subject to public disclosure under the Freedom of Information Act.

**PRESUMPTION OF CONTRACTOR BEING FULLY INFORMED**

At the time the first response is opened, each Contractor is presumed to have read and be thoroughly familiar with all RFP and contract documents herein. Failure or omission of the Contractor to receive or examine any information shall in no way relieve any Contractor from obligations with respect to their response.

The Town may, before or after proposal opening and in its sole discretion, clarify, modify, amend or terminate this RFP if the Town determines it is in the Town's best interest. Any such action shall be affected by a posting on the Town's website, [www.columbiact.org](http://www.columbiact.org). Each respondent is responsible for checking the Town's website to determine if the Town has issued any addenda and, if so, to complete its proposal in accordance with the RFP as modified by the addenda.

**INTERPRETATION OF ACCEPTABLE WORK**

The specifications, response and contract documents are to be interpreted as meaning those acceptable to the TOWN of COLUMBIA. Any substantive changes or interpretations will be issued by the Town in writing as an addendum.

**TAX EXEMPTIONS**

The TOWN of COLUMBIA is exempt from Federal Excise taxes and Connecticut Sales and Use taxes. Firms shall avail themselves of these exemptions.

**INSURANCE**

The firm awarded this contract must provide a current Certificate of Insurance to the Town Administrator PRIOR to commencement of work, with the following requirements:

- 1) **General Conditions:** Within ten (10) business days of the award or notice, or prior to the start of work, whichever comes first, the contractor/insured will provide, pay for, and maintain in full force and effect the insurance outlined here for coverage's at not less than the prescribed minimum limits of liability. Such coverage is to remain in force during the life of the contract and for such additional time as may be required, and will cover the contractor/insured's activities, those of any and all subcontractors, or anyone directly or indirectly employed by any of them, or by anyone for whose acts of them may be liable.

- A. **Certificates of insurance:** The contractor/insured will give the Town of Columbia a

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

certificate of insurance completed by a duly authorized representative of their insurer certifying that at least the minimum coverage's required here are in effect and specifying that the liability coverage's are written on an occurrence form and that the coverage's will not be canceled, non-renewed, or materially changed by endorsement or through issuance of other policy(ices) of insurance without sixty (60) days advance written notice to the Town of Columbia's, Town Administrator.

Failure of the owner to demand such certificate or other evidence of full compliance with these insurance requirements or failure of the town to identify a deficiency from evidence provided will not be construed as a waiver of the contractor/insured's obligation to maintain such insurance.

- B. **Insurer Qualifications:** All Insurance will be provided through companies authorized to do business in the State of Connecticut and considered acceptable by the Town.
- C. **Additional Insured:** The policy or policies providing insurance as required, with the exception of professional liability and worker's compensation, Contractor shall add the Town of Columbia on all insurance policies. Contractor shall provide the Town of Columbia with a certificate of insurance. Contractor insurance shall be primary and non-contributory.
- D. **Retroactive Date and Extended Reporting Period:** Any coverage written on a claims made basis requires an extended reporting period of at least 36 months upon final payment or date of project completion, whichever occurs later.
- E. **Subcontractors' Insurance:** The contractor will require and cause each subcontractor hired and/or employed by the contractor to purchase and maintain insurance of the types specified below. When requested by the town, the contractor will furnish copies of certificates of insurance evidencing coverage for each subcontractor. Any coverage written on a claims made basis requires an extended reporting period of at least 36 months upon final payment or date of project completion, whichever occurs later.
- F. **Waiver of Subrogation:** The contractor shall waive subrogation and all rights of recovery against the Town of Columbia. Contractor will require all insurance policies related to the work and secured and maintained by the contractor to include clauses waiving subrogation in the certificate of insurance. The contractor/insured will require of subcontractors, by appropriate written agreements, similar waivers each in favor of all parties enumerated in this section.
- G. **Hold Harmless:** To the fullest extent permitted by law, Contractor shall defend, indemnify and hold harmless the Town of Columbia, and their boards, employees and agents from and against all claims, damages, losses, judgments and expenses, including but not limited to attorney fees of counsel selected by the Town, that arise from or may arise from the performance of the work, the supplying of materials and/or the breach of this Agreement provided that such claim, loss, damage, judgment and/or loss expense is attributable to bodily injury, sickness, disease or death, or to injury or destruction of tangible property (other than the work itself) but only to the extent caused by the negligent acts or omissions of the Contractor, subcontractors, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim,

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

damage, loss, or expense is caused in part by a party indemnified hereunder.

**2) Insurance Limits and Coverage:**

- A. To the extent applicable, the amounts and types of insurance will conform to the minimum terms and conditions and coverages of the national Insurance Services Office (ISO) policies, forms, and endorsements.
- B. If the contractor/insured has self-insured retention's or deductibles under any of the following minimum required coverage's, the contractor/insured must identify on the certificate of insurance the nature and amount of such self-insured retention's or deductibles and provide satisfactory evidence of financial responsibility for such obligations. All self-insured retention's or deductibles will be the contractor/insured's sole responsibility.
- C. Commercial General Liability: The contractor/insured will maintain commercial general liability insurance covering all operations by or on behalf of the contractor/insured on an occurrence basis against all claims for personal injury (including bodily injury or death) and property damage (including loss of use).

Such insurance will have these minimum limits:

- \$ 1,000,000 each occurrence.
  - \$ 1,000,000 each occurrence if blasting is required.
  - \$ 2,000,000 general aggregate with dedicated limits per project site.
  - \$ 2,000,000 products and completed operations aggregate.
  - \$ 1,000,000 personal and advertising injury.
- D. Automobile Liability: The contractor/insured will maintain business auto liability coverage for liability arising out of any auto, including owned, hired, and non-owned autos.
  - E. Workers' Compensation: The contractor/insured will maintain workers' compensation and employer's liability insurance in the following minimum limits:
    - Workers' Compensation: statutory limits.
    - Employer's Liability: \$1,000,000 bodily injury for each accident.
    - Employer's Liability: \$1,000,000 bodily injury by disease each employee.
    - Employer's Liability: \$1,000,000 bodily injury disease aggregate.
  - F. Professional Liability: \$1,000,000
  - G. Governing Law: This agreement shall be governed by the laws of the State of Connecticut.
  - H. These are minimum insurance limit requirements only. Additional insurance coverage's and amounts may be required by the Town of Columbia on a per project basis.

**INDEMNIFICATION AND HOLD HARMLESS**

To the fullest extent permitted by law the Contractor shall defend, indemnify and hold harmless the Town, its officers, officials, employees and volunteers from any and all claims, injuries, damages, losses or suits including attorney fees, arising out of or in connection with the performance of services hereunder, except for injuries and damages caused by the sole negligence of the Town.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**PERMITS**

The Contractor is solely responsible for obtaining all required permits, obtaining all necessary inspections and approvals, and satisfying any and all fees. The Town will waive all TOWN of COLUMBIA fees for building permits and inspections.

**FAIR EMPLOYMENT PRACTICES**

The Contractor agrees not to discriminate against any employee or applicant for employment in the performance of this RFP's work with respect to hire, tenure, terms, conditions, or privileges of employment due to race, sex, age, religion, national origin, or other condition proscribed by State or Federal law.

**TERMS AND CONDITIONS OF CONTRACT**

The terms, conditions, and requirements of the contract for Emergency Generator Replacement for Horace W. Porter School are detailed in the attached specimen contract.

**AWARDING THE CONTRACT**

The TOWN of COLUMBIA reserves the right to reject any and all bids, to waive technical defects and make such award including accepting a bid, although not the low bid, as it deems in its sole discretion to be in the best interest of the Town of Columbia, or as funding allows.

It is the Town's policy to not award to those who owe TOWN of COLUMBIA prior year(s) property taxes.

The "Contract Awarded" date in section 2. entitled Key Event Dates is the date the contract is anticipated to be awarded. It is not a date certain.

The lowest priced response is NOT the sole determining factor when making awards.

**END OF STANDARD INSTRUCTIONS TO PROPOSERS**

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**GENERAL INSTRUCTIONS**

**INSTRUCTIONS FOR CONTRACTORS SUBMITTING RESPONSES**

The services to be performed under the Contract are more particularly described in **Exhibit A** attached hereto. Requirements as to how the services are to be performed are set forth in the Sample Contract, **Exhibit C**, attached hereto.

**EVALUATION AND SELECTION CRITERIA**

THE TOWN OF COLUMBIA will base its evaluation of responses on the following criteria, which are not necessarily in order of importance:

- a) The Contractor's understanding of the work as evidenced by the quality of the response submitted.
- b) The background and experience of the Contractor in providing services requested and past successful history of assignments on an as-needed basis.
- c) The demonstrated effectiveness of the Contractor's proposed service delivery system to ensure quality service and timely completion of services in an efficient manner.
- d) The background, education, qualifications and relevant experience of key personnel to be assigned to this contract that would work with the Town on a regular basis. Also, the qualifications of any subcontractors or subcontractors the Contractor intends to use in the performance of this contract.
- e) The appropriate licenses, if applicable held by Contractor's staff and subcontractors.
- f) References attesting to the quality of similar services performed.
- g) Competitiveness of proposed fees and costs, although the Town is not bound to select the Contractor(s) who proposes the lowest fees and costs.
- h) The Town reserves the right to negotiate fees with the selected Contractor(s).
- i) Any other factor or criterion that THE TOWN OF COLUMBIA, in its sole discretion, deems or may deem relevant or pertinent for such evaluation.
- j) Contractor's willingness to execute the contract as provided.

**SELECTION PROCEDURES**

- a) The Town of Columbia reserves the right to reject any and all bids, to waive technical defects and make such award including accepting a bid, although not the low bid, as it deems in its sole discretion to be in the best interest of the Town of Columbia, or as funding allows.
- b) Responses submitted in response to this RFQ&P will be reviewed against the Selection Criteria listed above.
- c) A Selection Committee may assist the Town in choosing a Contractor(s) to provide the requested services.
- d) Contractors submitting the most comprehensive and qualified responses may be invited to an interview with a Selection Committee.
- e) The Town intends to enter into contracts with the Contractor(s) whose responses are determined to best meet the needs of the Town.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**TOWN OF COLUMBIA, CONNECTICUT**  
**RESPONSE FORM # 1 REQUIRED RESPONSE**

**EMERGENCY GENERATOR REPLACEMENT FOR HORACE W. PORTER SCHOOL** penalty of perjury and other remedies available to the TOWN of COLUMBIA, the undersigned certifies this response is submitted without collusion and all responses are true and accurate. If selected to perform services(s) hereunder, it is agreed this form's a contractual obligation to provide such services at fees specified in Response Form #2, subject to and in accordance with all instructions, responses and contract documents, including any addenda, which are all made part of this response.

\_\_\_\_\_  
Signature of Authorized Person

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name of Authorized Person

\_\_\_\_\_  
Company Title of Authorized Person

\_\_\_\_\_  
Name of Company

\_\_\_\_\_  
Address of Company

\_\_\_\_\_  
Address of Company

\_\_\_\_\_  
City, State, and Zip Code

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Facsimile Number

\_\_\_\_\_  
e-mail address

**END OF RESPONSE FORM #1**

**Request for Proposals (RFP)  
Emergency Generator Replacement for Horace W. Porter School  
Columbia, CT  
Solicitation Number 001-2020**

**TOWN OF COLUMBIA, CONNECTICUT  
RESPONSE FORM #2 REQUIRED RESPONSE**

**EMERGENCY GENERATOR REPLACEMENT FOR HORACE W. PORTER SCHOOL**

I, WE, the undersigned, hereby agree to furnish and deliver at the net price named herein, the following items, subject to and in accordance with specifications and conditions contained herein, all of which are made a part of this proposal.

**TOTALS\_**

- |  |       |
|--|-------|
| 1. Generator Only Price No Installation:                                       | _____ |
| 2. Concrete Pad Removal and Installation:                                      | _____ |
| 3. Trenching and Sitework:   | _____ |
| 4. Electrical Piping/Wiring/Connections/Testing:                               | _____ |
| 5. Crane Service for Removal and Installation of New Generator:                | _____ |
| 6. Annual Service of Emergency Generator:                                      | _____ |
| 7. <b><u>Total Lump Sum Price to Install Emergency Generator Complete:</u></b> | _____ |
|  |       |
| 8. Generator Trade-in Price:   | _____ |

BIDDING COMPANY: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

COMPANY REP: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_ EMAIL: \_\_\_\_\_

THE TOWN RESERVES THE RIGHT TO ACCEPT OR REJECT PROPOSALS IN WHOLE OR IN PART DUE TO TECHNICAL DEFECTS, BUDGET LIMITATIONS OR ANY LEGAL REASON DEEMED TO BE IN THE IN THE TOWN'S BEST INTEREST.

**END OF RESPONSE FORM #2**



**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**EXHIBIT A – GENERAL DESCRIPTION OF WORK, MATERIALS AND SCOPE OF SERVICES**

**TOWN OF COLUMBIA, CONNECTICUT**  
**EMERGENCY GENERATOR REPLACEMENT FOR HORACE W. PORTER SCHOOL**

**PART 1 – GENERAL**

**1.1 Description of Work**

A. This section includes:

1. Field verification of the site for the new generator re: concrete pad removal and reinstallation.
2. Electrical wiring/ trench location into School building.
3. Electrical connections in school building and at generator pad.
4. Crane service for removal and installation of new generator.
5. Verification/Testing of proper operation of generator.
6. Annual service of Emergency Generator.

**1.2 Submittals**

A. Emergency Standby Generator specs.

Within 10 days after award of contract, provide six sets of the following information for review:

- Manufacturer's product literature and performance data, sufficient to verify compliance to specification requirements.
- A paragraph by paragraph specification compliance statement, describing the differences between the specified and the proposed equipment.
- Manufacturer's certification of prototype testing.
- Manufacturer's published warranty documents.
- Shop drawings showing plan and elevation views with certified overall dimensions, as well as wiring interconnection details.
- Interconnection wiring diagrams showing all external connections required; with field wiring terminals marked in a consistent point to point manner.

B. Electrical box including fire rating.

Within 10 days after award of contract, provide six sets of the following information for review:

- Manufacturer's product literature for the Enclosure including certification of 2-hour fire rating.

**PART 2 – NEW GENERATOR SYSTEM (Horace W. Porter School)**

A. Acceptable Manufacturers of Generator

1. Cummins Power Generation, Minneapolis, Minnesota
2. Caterpillar Power Systems, Deerfield, Illinois

**No other manufactures will be allowed!**

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

One (1) new Cummins Power Generation model no. C150D6D or Caterpillar Power Systems equivalent, rated at 150 KW, 120/208 volts AC, 3 phase, 4 wire, 60 hertz, 1800 RPM, for operation on diesel fuel. Outdoor application package to include the standard features plus the following items:

**2.1 Diesel Generator Set:**

- A. Basis-of-Design Product: As manufactured by Cummins Power Generation; Industrial Business, Minneapolis Minnesota, Generator Set Model No. C150D6D stand-by, diesel fueled, engine-generator or Caterpillar Power Systems, Deerfield Illinois. Generator shall be 150kW, 188kVA at 0.8 PF, 60Hz, 3 phase, 4 wire, 120/208 volts AC on a continuous base. Alternator equal to the Cummins Stamford Avk UC3G, 150kW rated at 105-degree C temperature rise, with a motor starting capability of 663kVA. Furnish it an aluminum type, insulated sound attenuated enclosure with critical exhaust silencer mounted within. Provide a double-wall, sub-base type fuel tank; plus, all features and accessories specified herein.
- B. Source Limitations: Obtain packages, engine generators, and auxiliary components from a single source from single manufacturer.

**2.2 Source Quality Control:**

- A. Prototype Tainting: Factory test engine-generator set using same engine model, constructed of identical or equivalent components and equipped with identical or equivalent accessories.
  - 1. Test: Comply with NFPA-110, Level 1 Energy Converters. In addition, the equipment engine, skid, cooling system, and alternator shall have been subjected to actual prototype tests to validate the capability of the design under the abnormal conditions noted in NPFA-110. Calculations and testing on similar equipment which are allowed under NFPA-110 are not sufficient to meet this requirement.
- B. Project Specific Equipment Tests: Before shipment the engine-generator set manufactured for this project must be tested at rated load and power factor. Include the following tests below. Tests must be certified.
  - 1. Test engine generator set manufactured for this project to demonstrate compatibility and functionality.
  - 2. Full load run.
  - 3. Voltage regulation.
  - 4. Steady-state governing.
  - 5. Single step load pick-up.
  - 6. Simulated safety shutdowns.

**2.3 Generator Set Performance:**

- A. Steady-State voltage operational bandwidth: 0.5 percent of rated output voltage from load to no load.
- B. Transient Voltage Performance: Not more than 20 percent variation for 50 percent step-load increase or decrease. Voltage shall recover and remain within the steady-state operating band within 5 seconds. On application of a 100% load step the generator set shall recover to stable voltage within 10 seconds.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

- C. Steady-State Frequency Operational Bandwidth: 0.25 percent of rated frequency from no load to full load.
- D. Steady-State Frequency Stability: When system is operating at any constant load within the rated load, there shall be no random speed variations outside the steady-state operational band and no hunting or surging of speed.
- E. Transient Frequency Performance: Not more than 15 percent variation for 50 percent step-load increase or decrease. Frequency shall recover and remain within the steady-state operating band within 5 seconds. On application of a 100% load step the generator set shall recover to stable frequency within 10 seconds.
- F. Output Waveform: At full load, harmonic content measured line to line or line to neutral shall not exceed 5 percent total and 3 percent for any single harmonic. Telephone influence factor, determined according to NEMA MG 1, shall not exceed 50.
- G. Transient Frequency Performance: Not more than 15 percent variation for 50 percent step-load increase or decrease. Frequency shall recover and remain within the steady-state operating band within 5 seconds. On application of a 100% load step the generator set shall recover to stable frequency within 10 seconds.
- H. Output Waveform: At full load, harmonic content measured line to line or line to neutral shall not exceed 5 percent total and 3 percent for any single harmonic. Telephone influence factor, determined according to NEMA MG 1, shall not exceed 50.
- I. Sustained Short-Circuit Current: (For engine-generator sets using a PMG-excited alternator) For a 3-phase, bolted short circuit at system output terminals, system shall supply a minimum of 300 percent of rated full-load current for not less than 8 seconds without damage to generator system components. For a 1-phase, bolted short circuit at system output terminals, system shall regulate both voltage and current to prevent over-voltage conditions on the non-faulted phases.
- J. Motor starting capability shall be a minimum of 663 kVA. The generator set shall be capable of sustaining a minimum of 90% of rated no load voltage with the specified kVA load at near zero power factor applied to the generator set.
- K. Start Time: Comply with NFPA 110, Level 1, Type 10, system requirements.
- L. Ambient Condition Performance: Engine generator shall be designed to allow operation at full rated load in an ambient temperature under site conditions, based on highest ambient condition.

**2.4 Engine:**

- A. Shall be equal to the Cummins QSB7-G5 as manufactured by Cummins Inc. and designed specifically for generator set duty. The engine shall be 4-cycle, diesel fueled, direct injection, piston speed of 1,464.0 ft./min., with forged steel crankshaft and connecting rods. Minimum engine displacement shall be 408.0 cubic inches (6.7 liters), 324 brake horsepower. Engine block shall be cast iron and have no less than 6 in-line cylinders. Engine shall be turbocharged and charge-air-cooled

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

B. Lubrication system: Engine or Skid-mounted:

1. Filter and Strainer: Rated to remove 90 percent of particles 5 micrometers and smaller while passing full flow.
2. Thermostatic Control Valve: Control flow in system to maintain optimum oil temperature. Unit shall be capable of full flow and is designed to be fail-safe.
3. Crankcase Drain: Arranged for complete gravity drainage to an easily removable container with no disassembly and without use of pumps, siphons, special tools, or appliances.

C. Coolant Jacket Heater: Electric-immersion type, factory installed in coolant jacket system. Comply with NFPA 110 requirements for Level 1 equipment for heater capacity and performance.

1. Heater shall be 1,500 watts and designed for operation on a single 120 volts AC, single-phase, 60Hz power connection. Heater voltage shall be shown on the project drawings.
2. Installed with isolation valves to isolate the heater for replacement of the element without draining the engine cooling system or significant coolant loss.
3. Provided with a 24VDC thermostat, installed at the engine thermostat housing.

D. Governor: Adjustable isochronous, with speed sensing. The governing system dynamic capabilities shall be controlled as a function of engine coolant temperature to provide fast, stable operation at varying engine operating temperature conditions. The control system shall actively control the fuel rate as appropriate to the state of the engine generator. Fuel rate shall be regulated as a function of starting, accelerating to start disconnect speed, accelerating to rated speed, and operating in various isochronous states.

E. Cooling System: Closed loop, liquid cooled:

1. The generator set manufacturer shall provide prototype test data for the specific hardware proposed demonstrating that the machine will operate at rated full load operation in 122.0 degrees F (50 degrees C) ambient as measured at the generator air inlet. Rotating parts shall be guarded against accidental contact per OSHA requirements.
2. Coolant: Solution of 50 percent ethylene glycol-based antifreeze and 50 percent water with anticorrosion additives as recommended by the engine manufacturer.
3. Size of Radiator Overflow Tank: Adequate to contain expansion of total system coolant from cold start to 110 percent load condition.
4. Temperature Control: Self-contained, thermostatic-control valve modulates coolant flow automatically to maintain optimum constant coolant temperature as recommended by the engine manufacturer.

F. Muffler/Silencer: Selected with performance as required to meet sound requirements of the application, sized as recommended by engine manufacturer and selected with exhaust piping system to not exceed engine manufacturer's engine backpressure requirements. For generator sets with outdoor enclosures the silencer must be located inside the enclosure.

G. Air-Intake Filter: Normal-duty engine-mounted air cleaner with replaceable dry-filter element and restriction indication.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

- H. Engine starting system: 12 volts DC, electric motor starter capable of three complete cranking cycles without overheating.
  - 1. Components: Sized so they will not be damaged during a full engine-cranking cycle with ambient temperature at maximum specified in Part 1 "Project Conditions" Article.
  - 2. Cranking Cycle: As required by NFPA 110 for level 1 systems.
  - 3. Battery Cable: Size as recommended by engine manufacturer for cable length as required. Include required interconnecting conductors and connection accessories.
  - 4. Battery Compartment: Factory fabricated of metal with acid-resistant finish. Thermostatically controlled heater shall be provided to maintain battery above 40 degrees F regardless of external ambient temperature within range specified in site conditions, section 1.7 of this specification.
  - 5. Battery charging alternator: 100 ampere factory mounted on engine with solid-state voltage regulation. The battery charging alternator shall have sufficient capacity to recharge the batteries with all parasitic loads connected within 4 hours after a normal engine starting sequence.
- I. Positive displacement, mechanical, full pressure, lubrication oil pump.
- J. Full flow lubrication oil filters with replaceable spin on canister elements and dipstick oil level indicator.
- K. Flexible supply fuel line.
- L. Provide a crankcase emission control system that shall remove a minimum of 99% of crankcase emissions. The crankcase emission control system shall reduce NOx, hydrocarbon and oil from the crankcase emissions.

**2.5 AC Generator:**

- A. The AC generator shall be synchronous, four pole, 2/3 pitch, revolving field, single pre-lubricated sealed bearing, air cooled by a direct drive centrifugal blower fan, and directly connected to the engine with flexible drive disc rotating integrally with generator rotor.
- B. Comply with NEMA MG 1
- C. Enclosure: Drip-proof
- D. Electrical Insulation: Class H
- E. Temperature rise measured by resistance method at full load shall not exceed 105 degrees Celsius.
- F. Construction shall prevent mechanical, electrical and thermal damage due to vibration, overspeed, up to 125 percent of rating, and head during operation at 110 percent of rated capacity.
- G. Stator-Windings Lead: Brought out to terminal box to permit future reconnection for other voltages if required.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

- H. Voltage regulator: solid-state type, separate from exciter, providing performance as specified. The voltage regulation system shall be microprocessor controlled, 3-phase true RMS sensing, full wave rectified, and provide a pulse-width modulated signal to the exciter. No exceptions or deviations of these requirements will be permitted.
- I. Provide Permanent Magnet Generator (PMG) shall provide excitation power for optimum motor starting and short circuit performance
- J. The generator shall be capable of delivering rated output (kVA) at rated frequency and power factor, at any voltage not more than 5 percent above or below rated voltage.

**2.6 Generator Set Control:**

- A. The generator set shall be provided with a microprocessor-based control system that is designed to provide automatic starting, monitoring, and control functions for the generator set. The control system shall also be designed to allow local monitoring and control of the generator set, and remote monitoring and control as described in this specification.
- B. The control shall be mounted on the generator set. The control shall be vibration isolated and prototype tested to verify the durability of all components in the system under the vibration conditions encountered.
- C. The generator set mounted control shall include the following features and functions:
  - 1. Control Switches:
    - a) Mode Select Switch: The mode select switch shall initiate the following control modes. When in the RUN or Manual position the generator set shall start, and accelerate to rated speed and voltage as directed by the operator. In the OFF position the generator set shall immediately stop, bypassing all time delays. In the AUTO position the generator set shall be ready to accept a signal from a remote device to start and accelerate to rated speed and voltage.
    - b) Mounting Location: The generator set control panel shall be mounted on the left side of the generator for customer access. There will not be right side access.
    - c) EMERGENCY STOP Switch: Local switch mounted on the controller panel, shall be Red "mushroom-head" push button. Depressing the emergency stop switch shall cause the generator set to be immediately shut down and be locked out from automatic restarting.
    - d) RESET Switch: The RESET switch shall be used to clear a fault and allow restarting the generator set after it has shut down for any fault condition.
    - e) PANEL LAMP Switch: Depressing the panel lamp switch shall cause the entire panel to be lighted with DC control power. The panel lamps shall automatically be switched off 10 minutes after the switch is depressed, or after the switch is depressed a second time.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

2. Generator Set AC Output Metering: The generator set shall be provided with a metering set including the following features and functions:
  - a) Digital metering, 1% accuracy, to indicate generator RMS voltage and current, frequency, output current, output KW, KW hours, and Power Factor. Generator output voltage shall be available in line to line and line to neutral voltages, and shall display all three-phase voltages (line-to-neutral or line-to-line) simultaneously.
  - b) The control system shall monitor the total load on the generator set and maintain data logs of total operating hours at specific load levels ranging from 0 to 110% of rated load, in 10% increments. The control shall display hours of operation at less than 30% load and total hours of operation at more than 90% of rated load.
  - c) The control system shall log total number of operating hours, total kW-H, and total control on hours, as well as total values since reset.
3. Generator Set Alarm and Status Display
  - a) The generator set control shall include LED alarm and status indication lamps. The lamps shall be high intensity LED type. The lamp condition shall be clearly apparent under bright room lighting conditions. Functions indicated by the lamps shall include:
    - The control shall include five configurable alarm-indicating lamps. The lamps shall be field adjustable for function, color, and control action (status, warning, or shutdown).
    - The control shall include green lamps to indicate that the generator set is running at rated frequency and voltage, and that a remote start signal has been received at the generator set. The running signal shall be based on actual sensed voltage and frequency on the output terminals of the generator set.
    - The control shall include a flashing red lamp to indicate that the control is not in automatic state, and red common shutdown lamp.
    - The control shall include an amber common warning indication lamp.
  - b) The generator set control shall indicate the existence of the following alarms and shutdown conditions on an alphanumeric digital display panel:
    - low oil pressure (alarm)
    - low oil pressure (shutdown)
    - oil pressure sender failure (alarm)
    - low coolant temperature (alarm)
    - high coolant temperature (alarm)
    - high coolant temperature (shutdown)
    - high oil temperature (warning)
    - engine temperature sender failure (alarm)
    - low coolant level (alarm or shutdown selectable)
    - fail to crank (shutdown)
    - fail to start/overcrank (shutdown)

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

- overspeed (shutdown)
  - low DC voltage (alarm)
  - high DC voltage (alarm)
  - weak battery (alarm)
  - high AC voltage (shutdown)
  - low AC voltage (shutdown)
  - under frequency (shutdown)
  - over current (warning)
  - over current (shutdown)
  - short circuit (shutdown)
  - overload (alarm)
  - emergency stop (shutdown)
- c) Provisions shall be made for indication of four customer specified alarm or shutdown conditions. Labeling of the customer-specified alarm or shutdown conditions shall be of the same type and quality as the above-specified conditions. The non-automatic indicating lamp shall be red and shall flash, to indicate that the generator set is not able to automatically respond to a command to start from a remote location.
- d) The control shutdown fault conditions shall be configurable for fault bypass.
4. Engine Status Monitoring
- a) The following information shall be available from a digital status panel on the generator set control:
- engine oil pressure (psi or kPA)
  - engine coolant temperature (degrees F or C)
  - engine oil temperature (degrees F or C)
  - engine speed (rpm)
  - number of hours of operation (hours)
  - number of starts attempts
  - battery voltage (DC volts)
- b) The control system shall also incorporate a data logging and display provision to allow logging of the last 10 warning or shutdown indications on the generator set, as well as total time of operation at various loads, as a percent of the standby rating of the generator set.
5. Engine Control Functions:
- a) The control system provided shall include a cycle cranking system, which allows for user selected crank time, rest time, and # of cycles. Initial settings shall be for 3 cranking periods of 15 seconds each, with 15-second rest period between cranking periods.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

- b) The control system shall include an idle mode control, which allows the engine to run in idle mode in the RUN position only. In this mode, the alternator excitation system shall be disabled.
  - c) The control system shall include an engine governor control, which functions to provide steady state frequency regulation as noted elsewhere in this specification. The governor control shall include adjustments for gain, damping, and a ramping function to control engine speed and limit exhaust smoke while the unit is starting.
  - d) The control system shall include time delay start (adjustable 0 - 300 seconds) and time delay stop (adjustable 0 - 600 seconds) functions.
  - e) The control system shall include sender failure monitoring logic for speed sensing, oil pressure, and engine temperature which is capable of discriminating between failed sender or wiring components, and an actual failure condition.
6. Alternator Protection Relay: The generator set shall be provided with a UL Listed/CSA Certified protective device that is coordinated with the alternator provided to prevent damage to the generator set on any possible overload or overcurrent condition external to the machine. The protective relay shall be listed as a utility-grade protective device under UL category NRGU. The control system shall be subject to UL follow-up service at the manufacturing location to verify the protective system is fully operational as manufactured. Protector shall perform the following functions:
- a) The protective device shall allow continuous operation at rated current level of the generator set without tripping. It shall initiate a generator kW overload alarm when generator has operated at an overload equivalent to 110 percent of full-rated load for 60 seconds. Indication for this alarm is integrated with other generator-set malfunction alarms.
  - b) Under single phase or multiple phase fault conditions, or on overload conditions, indicates an alarm conditions when the current flow is in excess of 110% of rated current for more than 10 seconds.
  - c) Under single phase or multiple phase fault conditions, operates to switch off alternator excitation at the appropriate time to prevent damage to the alternator. The control logic of the protective device shall include integrated time-based functions to prevent alternator damage on multiple fault conditions that occur over short time periods.
  - d) The protective system provided shall not include an instantaneous trip function.
  - e) The operator panel shall indicate the nature of the fault condition as either a short circuit or an overload.
  - f) The over current protective system shall include a maintenance mode in compliance to the National Electrical Code section 240.87 which disables the alternator excitation system within 50 milliseconds when output current on any phase is more than three times rated current. The mode shall be operational for any fault from the terminals of the generator throughout the distribution system.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

- g) Senses clearing of a fault by other overcurrent devices and controls recovery of rated voltage to avoid overshoot greater than 120% of nominal voltage.
  - h) Ground-Fault Protection/Indication: The control system shall include an input for measurement of ground fault current, and protection that is configurable for current level and time delay, as well as trip or alarm. The generator system shall be separately derived, with a single neutral to ground bonding point for the system. Ground fault sensing for the generators shall be located at the neutral to ground bonding point.
  - i) The control system shall be provided with arc flash reduction capability in compliance to NEC 240.87(B)(3).
7. Other Control Functions:
- a) The generator set shall be provided with a network communication module to allow LonMark compliant communication with the generator set control by remote devices. The control shall communicate all engine and alternator data and allow starting and stopping of the generator set via the network in both test and emergency modes.
  - b) A battery monitoring system shall be provided which initiates alarms when the DC control and starting voltage is less than 13 Volts DC or more than 17 Volts DC. During engine cranking (starter engaged), the low voltage limit shall be disabled, and DC voltage shall be monitored as load is applied to the battery, to detect impending battery failure or deteriorated battery condition.
8. Control Interfaces for Remote Monitoring:
- a) The control system shall provide two programmable output relays. These relay outputs shall be configurable for any alarm, shutdown, or status condition monitored by the control. The relays shall be configured to indicate: generator set operating at rated voltage and frequency and common shutdown.
  - b) A fused 10-amp switched 12VDC power supply circuit shall be provided for customer use. DC power shall be available from this circuit whenever the generator set is running.
  - c) A fused 10-amp 12VDC power supply circuit shall be provided for customer use. DC power shall be available from this circuit at all times from the engine starting/control batteries.
  - d) The controller panel shall be provided with a direct serial communication link for the ModBus RTU communication to customer's network interface.

**2.7 Base:**

- A. The engine-generator set shall be mounted on a heavy-duty steel base to maintain alignment between components. The base shall incorporate a battery tray with hold-down clamps within the rails.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**2.8 Exhaust System:**

- A. A critical grade exhaust silencer shall be provided for the generator set. The silencer shall be critical grade type and attenuated to a minimum of 25 dB(A).
- B. All exterior fittings, accessories and bolts shall be type 304 stainless steel. Provide heat resistant gaskets between all flanged connections to serve as dielectric protectors.
- C. Maximum gas flow shall not exceed 1,258 cfm. The exhaust gas temperature shall not exceed 872 degrees F. The maximum back pressure shall not exceed 40.19 inches of water. The design of the entire exhaust system is based on the above data. If a substitution of a model specified is made, all costs incurred to redesign as well as costs to other trades to modify the layout shall be the complete responsibility of the electrical contractor.
- D. Provide a stainless-steel flexible exhaust connection for the engine as required for connection between the engine exhaust manifold and the exhaust lines in compliance with acceptable codes.
- E. Provide an exhaust system condensation trap and drain valve to trap and drain off exhaust condensation and to prevent condensation from entering the engine.

**2.9 Generator Set Auxiliary Equipment and Accessories:**

- A. Vibration Isolators: Shall be provided with elastomeric isolator pads integral to the generator unless the engine manufacturer requires spring isolator type.
- B. Starting and Control Batteries: 12 volts DC, Lead-Acid type starting batteries with quantity and sized as recommended by the generator set manufacturer.
- C. Battery Charger: Current limiting, automatic equalizing, and float charging type designed for either Lead-Acid and NiCad batteries in generator set installation. Battery charger shall be 4-state charging cycle for optimum battery life. Unit shall UL-1236/CSA and include the following features:
  - 1. Operation: Equalizing-charging rate of 10 amps shall be initiated automatically after battery has lost charge until an adjustable equalizing voltage is achieved at battery terminals. Unit shall be then automatically switched to a lower float charging mode and shall continue to operate in that mode until the battery is discharged again. Battery charger shall be field configurable for charging either 12- or 24-volts DC battery systems at 50 or 60 Hz operation.
  - 2. Automatic temperature compensation: Adjust float and equalize voltages for variations in ambient temperature from minus 4 degrees F (minus 20 degree C) to 104-degree F (45-degree F) to prevent overcharging at high temperatures and under charging at low temperatures.
  - 3. Automatic voltage regulation: Maintain constant output voltage regardless of input voltage variations up to plus or minus 0.5 percent (%).
  - 4. Monitoring: Status LED indications are provided to show the conditions of the charger. LED's monitor indicates operation functions for temperature, compensation active (green), AC on (green) Float (green) or boost (amber) mode, as well as a Battery Fault alarm (red). LED's shall illuminate red when the charger fails. Additionally, a user display shall be provided showing output voltage and current

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

- fault information and status are indicated on the front panel. Includes precision ammeter and voltmeter.
5. Safety Functions: The charger shall sense and annunciate AC power loss, battery overvoltage, battery undervoltage, battery fault conditions, and battery charger malfunction
  6. Enclosure and Mounting: NEMA 250, Type 1, (IP20) corrosion resistant aluminum enclosure designed for wall mounting.
- D. Generator main circuit breaker: Provide two (2) generator mounted circuit breakers, 3-pole, 600 volts AC class, UL listed with LSi electronic-trip, 100% rated. Circuit breaker sizes shall be 400AF & 200AF, or as listed in the project drawings. Submittals shall demonstrate that the circuit breaker provides proper protection for the alternator by a comparison of the trip characteristic of the breaker with the thermal damage characteristic of the alternator. Field circuit breakers shall not be acceptable for generator overcurrent protection.
- E. Remote Alarm Annunciator: An LED indicator light labeled with proper alarm conditions shall identify each alarm event, and a common audible signal shall sound for each alarm condition. Silencing switch in face of panel shall silence signal without altering visual indication. Connect so that after an alarm is silenced, clearing of initiating condition will reactivate alarm until silencing switch is reset. Cabinet and faceplate are surface- or flush-mounting type to suit mounting conditions indicated.
- Overcrank alarm.
  - Coolant low-temperature alarm.
  - High engine temperature pre-alarm.
  - High engine temperature alarm.
  - Low lube oil pressure alarm.
  - Overspeed alarm.
  - Low-fuel main tank alarm.
  - Low coolant level alarm.
  - Low-cranking voltage alarm.
  - Contacts for local and remote common alarm.
  - Audible-alarm silencing switch.
  - Air shutdown damper when used.
  - Run-Off-Auto switch.
  - Control switch not in automatic position alarm.
  - Fuel tank derangement alarm.
  - Fuel tank high-level shutdown of fuel-supply alarm.
  - Lamp test.
  - Low-cranking voltage alarm.
  - Generator overcurrent protective device not closed.
- F. Remote Emergency-Stop Switch: Flush; wall mounted, unless otherwise indicated; and labeled. Push button shall be protected from accidental operation.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**2.10 Outdoor Generator-Set Enclosure:**

Vandal-resistant, sound-attenuating, weather-proof aluminum type housing. Wind resistance up to 180MPH. Multiple panels shall be lockable and provide adequate access to components requiring maintenance. Instruments, control, battery system, and associated equipment shall be mounted within the enclosure.

A. Construction:

1. Enclosure shall be aluminum type
2. Louvers: Equipped with bird screen to permit air circulation when engine is not running while excluding birds and rodents.
3. Hinged Doors: With padlocking provisions. Restraint/Hold back hardware to prevent door to keep door open at 180 degrees during maintenance. Rain lips over all doors.
4. Exhaust System: Muffler Location: Within enclosure.
5. Hardware: All hardware and hinges shall be stainless steel.
6. Mounting Base: Suitable for mounting on sub-base fuel tank or housekeeping pad.
7. A weather protective enclosure shall be provided which allows the generator set to operate at full rated load with a static pressure drop equal to or less than 0.5 inches of water.
8. Inlet ducts shall include rain hoods
9. Finishes: Powder coated and baked over corrosion resistant pre-treatment and compatible primer.
10. Louvers: Fixed-engine, cooling-air inlet and discharge.

B. Sound Performance: Reduce the sound level of the engine generator while operating at full rated load to a maximum of 72.0 dB(A) measured at 23 feet from the engine generator in a free field environment. Maximum difference between any two readings used in an average must not exceed 2 dB(A).

C. Site Provisions: Lifting: Complete assembly of engine generator, enclosure, and sub base fuel tank shall be designed to be lifted into place as a single unit, using spreader bars.

**2.11 Sub-Base Tank:**

- A. Provide a U.L.142 listed regional sub-base fuel tank with enough capacity for 785 U.S gallons and operation up to 66-hours at full load. The tank shall be of a double-wall construction and must have a rupture basin that is 125% of nominal capacity.
- B. Fuel tank shall include fuel gauge, low/high level switches, leak detection switch, normal and emergency vents, fittings for fuel suction and return lines, lockable fuel fill port and NPT drain port for the rupture basin.
- C. Fuel tank must ship from the factory fully assembled and mounted to the generator set and enclosure system. Fuel tanks that ship loose and required separate riggings and field assembly will not be accepted.

**2.12 Factory Testing:**

The generator set and transfer switch shall be factory tested shall perform a complete operational test prior to shipping from the factory.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

- A. A certified factory test report is required. The process shall include calibration of voltage sensors and safety shutdown procedures.

**PART 3 – EXECUTION**

**3.1 Examination:**

- A. Examine areas, equipment bases and conditions with installer present for compliance with requirements for installation and other conditions affecting package engine-generator performance.
- B. Examine roughing-in of piping systems and electrical connections. Verify locations of connections before package engine-generator installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

**3.2 Installation**

- A. Comply with packaged engine-generator manufacturers' written installation and alignment instructions and with NFPA 110.
- B. Install packaged engine generator to provide access, without removing connections or accessories, for periodic maintenance.
- C. Install packaged engine generator on cast-in-place concrete equipment base. Comply with requirements for equipment bases and foundations specified in Section "Cast-in-Place Concrete".
- D. Comply with requirements for seismic control devices specified in Section 260548 "Vibration and Seismic Controls for Electrical Systems."
- E. Comply with requirements for vibration isolation devices specified in this section.
- F. Install remote emergency stop switch(es) and remote annunciator in locations required by code with wiring per manufacturer's recommendations.
- G. Electrical Wiring: Install electrical devices furnished by equipment manufacturers but not specified to be factory mounted.

**3.3 Connections:**

- A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping and specialties.
- B. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."
- C. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

**3.4 Identification:**

- A. Identify system components according to Section 260553 "Identification for Electrical Systems."
- B. Provide a sign at the building service entrance equipment indicating type and location of generator.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**3.5 On-Site Acceptance Test:**

- A. The complete installation shall be tested to verify compliance with the performance requirements of this specification following completion of all site work. Testing shall be conducted by representatives of the manufacturer, with required fuel supplied by Contractor. The Engineer shall be notified in advance and shall have the option to witness the tests. The generator set manufacturer shall provide a site test specification covering the entire system.
- B. Prior to start of active testing, all field connections for wiring, power conductors, and bus bar connections shall be checked for proper tightening torque.
- C. Installation acceptance tests to be conducted on site shall include a "cold start" test and followed by a two (2) hour full load test, and a one-step rated load pickup test in accordance with NFPA 110. Provide a resistive load bank and make temporary connections for full load test, if necessary.
- D. Perform a power failure test on the entire installed system. This test shall be conducted by opening the power supply from the utility service and observing proper operation of the system for at least 2 hours. Coordinate timing and obtain approval for start of test with site personnel.

**3.6 Owner Training**

- A. The equipment supplier shall provide training for the facility operating personnel covering operation and maintenance of the new equipment provided and existing equipment being relocated. The training program shall be not less than 2 hours in duration and the class size shall be limited to 5 persons. Training date shall be coordinated with the facility owner.

**3.7 Service and Support**

- A. The generator set supplier shall maintain service parts inventory for the entire power system at a central location which is accessible to the service location 24 hours per day, 365 days per year. The inventory shall have a commercial value of \$3 million or more. The manufacturer of the generator set shall maintain a central parts inventory to support the supplier, covering all the major components of the power system, including engines, alternators, control systems, paralleling electronics, and power transfer equipment.
- B. The generator set shall be serviced by a local service organization that is trained and factory certified in generator set service. The supplier shall maintain an inventory of critical power system replacement parts in the local service location. Service vehicles shall be stocked with critical replacement parts. The service organization shall be on call 24 hours per day, 365 days per year.
- C. The manufacturer shall maintain model and serial number records of each generator set provided for at least 20 years
- D. The generator set supplier is to include a 1-year preventative maintenance agreement including one (1) full preventive maintenance service and one (1) preventative inspection.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**PART 4-SCOPE OF WORK**

**4.1 Project Details**

- A. Generator installation is to be completed by August 21, 2020, this is to include all concrete work, trenching, pipe installed along with new power feeders installed and connections terminated, trench to be back filled, topsoil in place and grass seed applied, all interior pipe and wiring installed and completed, generator to be started and tested by the completion date.
- B. Work on the existing generator cannot start until the school has completed the school year or June 30th, 2020 whichever comes first.
- C. Contractor is to be responsible for proper permits, with Town of Columbia permit fees to be waived.
- D. Contractor is to be responsible for all field measurements, ordering of the generator, and taking receipt of the generator, along with the coordination of subcontractors on the site.
- E. Work on the Town and School grounds is to be scheduled through the Columbia BOE Facilities Manager, Michael Sylvester at 860-228-9493 ext. 182 or [msylvester@hwporter.org](mailto:msylvester@hwporter.org)
- F. Contractor is responsible for the removal from the existing location of the Emergency Standby Generator, to a Town vehicle which will transport the generator to the public works garage and will need to be removed from the vehicle. This item will not be the contractor's responsibility if the trade in quote is accepted by the Town of Columbia.
- G. Work hours at job site are from 7:00 am to 4:00 pm Monday thru Friday excluding any holidays. Saturday upon request.
- H. Generator is to have a 2-year warranty on failed parts or damage due to a defect in the manufacturer's materials or factory workmanship. Repairs due to a defect are to be repaired at no cost to the Town of Columbia or the Columbia Board of Education during the warranty period.
- I. Subcontracts and/or subcontractors to the awarded contractor shall be the sole responsibility of said contractor. The Town of Columbia reserves the right to suspend, stop, or terminate work if it is deemed unsafe, not to specifications, or contractors/subcontractors acting in an unprofessional manner.
- J. Technicians completing the generator startup and testing are to be factory trained technicians.
- K. Contractor is responsible to secure new generator to concrete pad per manufacturers specifications.
- L. Change orders if applicable can only be priced at a maximum of 10% markup on materials, services and labor related to the change order. Documentation of pricing will be required.

**4.2 Concrete**

- A. Existing concrete slab is to be removed from the site and disposed of properly. To be recycled at Willimantic Waste's construction and demolition recycling facility, 1590 West Main St. Willimantic CT 06226.
- B. Existing subsurface is to be determined if it is adequate to remain by a Town of Columbia

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

representative. If the subsurface is determined to be removed, the contractor will do so at no additional cost to the Town of Columbia.

- C. The site for the new larger concrete pad is to be prepped with a proper subsurface of gravel and compacted sufficiently before the forms for the pad are put in place.
- D. Reinforcing bars are to be placed in the form at the proper elevation and tied together in both directions before concrete is poured.
- E. The finish of the concrete pad will be "broom finish".
- F. Upon completion of the finishing of the concrete and to the point that the surface will not be ruined, the plastic sheet is to be applied and the concrete is to be kept moist for 7 days.
- G. No work is to take place on the concrete slab for a minimum of 14 days other than the removal of the plastic covering the slab after 7 days.
- H. After completion of the concrete slab all construction debris including forms and curing plastic are to be removed from the site

**4.3 Trenching**

- A. "Call Before You Dig" is to be called by the contractor and utilities into the building are to be identified before any work is to start. Michael Sylvester Columbia Board of Education Facilities manager is to be notified when "Call Before you Dig" is to be on the school grounds.
- B. coordination of starting the trenching is to be made with Facilities Manager Michael Sylvester at either [msylvester@hwporter.org](mailto:msylvester@hwporter.org) or 860-228-9493 ext. 182 at least 2 days before starting to dig.
- C. Materials are not to be stored on the pavement or grass areas without approval from the Town of Columbia or Columbia Board of Education.
- D. The area around the trenching is to be secured by caution tape to keep pedestrians safe from the equipment and the trench, during the work hours. The work area will need to be made safe by the use of safety fencing if it is to be left open and unattended i.e. Overnight or weekend.
- E. Trench Width: Pipe trenches are shall be made as narrow as practicable and shall not be widened by scraping or loosening of materials from the sides. Every effort shall be made to keep the sides of the trenches firm and undisturbed until backfilling has been completed and consolidated.
- F. Pipe Bedding is to be sandy material with an aggregate no larger than 3/8". Pipe to have a minimum of 6" of pipe bedding under and on the sides of the pipe. The top of the pipe to have 12" minimum of pipe bedding.
- G. Backfilling of the trench is to be completed in 6" lifts and compacted adequately before starting the next lift.
- H. After backfilling loam in trench, it is to be rolled with a 150 lb. roller to prevent settling.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**4.4 Electrical**

- A. Disconnecting of existing wiring to existing generator in preparation of removal of the old generator.
- B. To coordinate the drilling of concrete foundation wall to ensure the proper location entering the building.
- C. Install new 2-hour fire rated junction box in Electrical room.
- D. To install new 2" rigid conduit in Electrical room from the exterior to new junction box.
- E. To install new 2" PVC conduit in trench from rigid conduit to new generator pad. To assist/supervise in the backfilling of the conduit to ensure proper placement and no damage to pipe.
- F. To install new feeders and ground conductors from new junction box to new generator pad.
- G. To disconnect existing MI cable from 175 amp. circuit breaker and relocate MI cable to new junction box in Electrical room. Make new splices from MI cable to new feeders from generator.
- H. Disconnect and remove existing 175 amp. Circuit breaker and enclosure making sure to seal all holes in the remaining enclosure.
- I. To assist with the setting of the new generator to prevent damage of the existing feeders and control wires.
- J. To make all connections at the generator for power, controls and battery charging
- K. To assist in the startup and testing of the generator to verify proper operation.

**4.5 Crane**

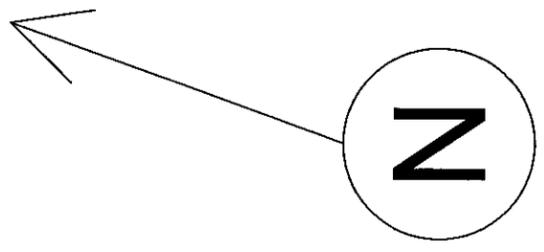
- A. To be used for removal of the existing generator, removal of new generator from shipping truck and installation of new generator on concrete pad.
- B. Contractor is responsible to determine the size of the crane needed to complete all of the moves listed in 3.05-A.
- C. Contractor will be responsible for all coordination of possible driveway and or parking lot closure due to the crane and delivery vehicle blocking portions of the driveway or parking lot. Contractor is to notify Michael Sylvester Facilities Manager, Columbia Board of Education prior to the possible closure.

**Request for Proposals (RFP)  
Emergency Generator Replacement for Horace W. Porter School  
Columbia, CT  
Solicitation Number 001-2020**

**EXHIBIT B: DRAWINGS**

**Request for Proposals (RFP)  
Emergency Generator Replacement for Horace W. Porter School  
Columbia, CT  
Solicitation Number 001-2020**

**2020 Generator Drawing 1: Emergency Generator Replacement Site Plan**



Safety barrier-  
caution tape or fencing

New proposed conduit  
and feeders

Existing conduit  
and feeders

Asphalt Sidewalk

Electrical room

Concrete Sidewalk

Concrete Sidewalk

Existing 8"  
Storm drain

New concrete pad

Existing pad

ANNEX BUILDING

New proposed conduit  
and feeders

Existing 8"  
Storm drain

Safety barrier- caution tape or fencing

**Notes**

**CALL BEFORE YOU DIG** is to be contacted and utilities into building are to be identified before any trenching starts

Asphalt sidewalk to be saw cut, removed and replaced

Grass areas are to be restored to original conditions such as grading and grass seed installed and protected with hay

All Electrical PVC conduit is to be schedule 40

All conduit bends are to be sweeps with a radius of 24"

Garage

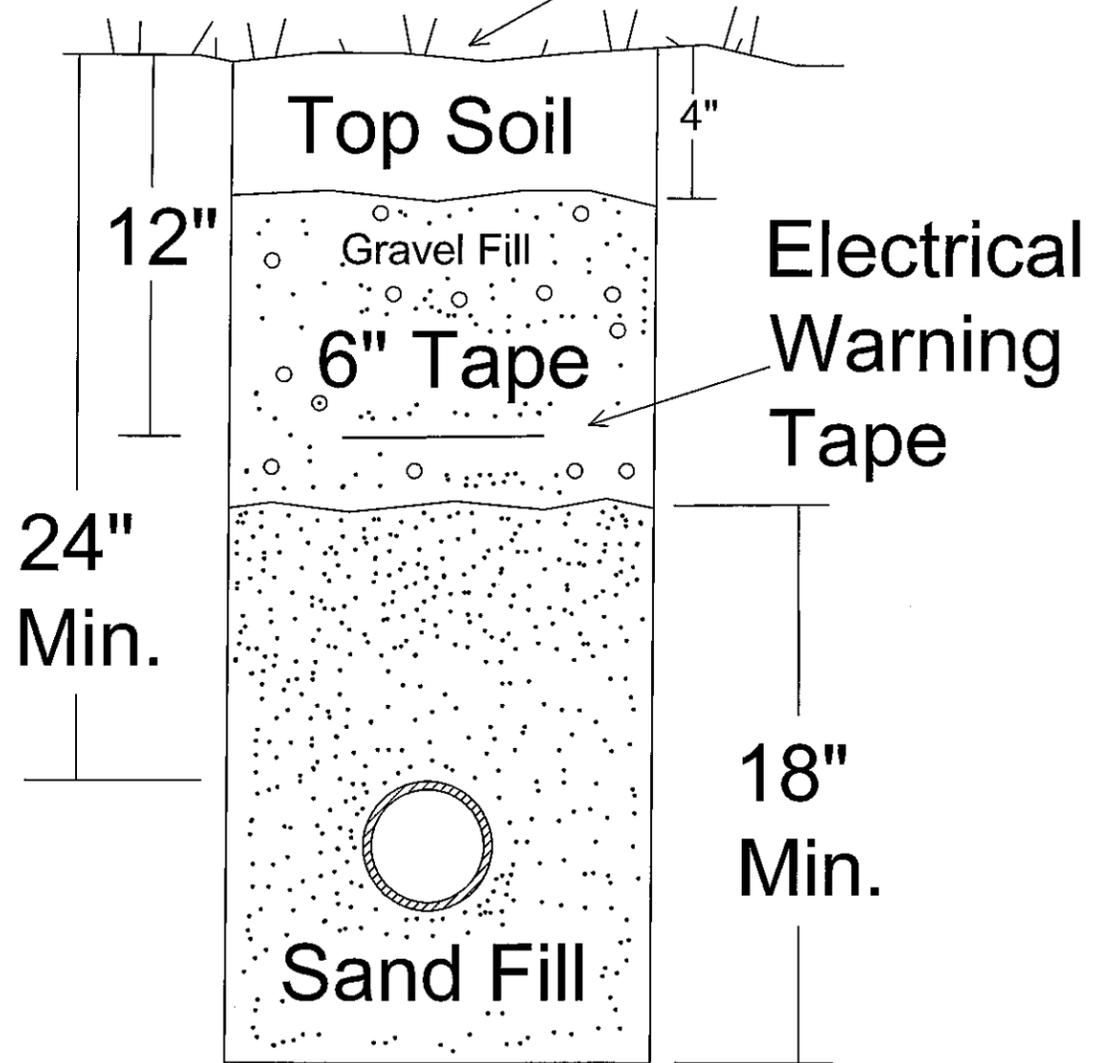
Existing pipes  
To annex and  
Town Hall

PROJECT Emergency Generator Replacement site plan	DATE- 1/28/2020 SCALE- 1/8" = 1'
H.W.PORTER SCHOOL 3 SCHOOLHOUSE RD COLUMBIA, CT. 06237	DRAWN BY- M SYLVESTER

**Request for Proposals (RFP)  
Emergency Generator Replacement for Horace W. Porter School  
Columbia, CT  
Solicitation Number 001-2020**

**2020 Generator Drawing 2: Generator Replacement Wiring**

# Grade



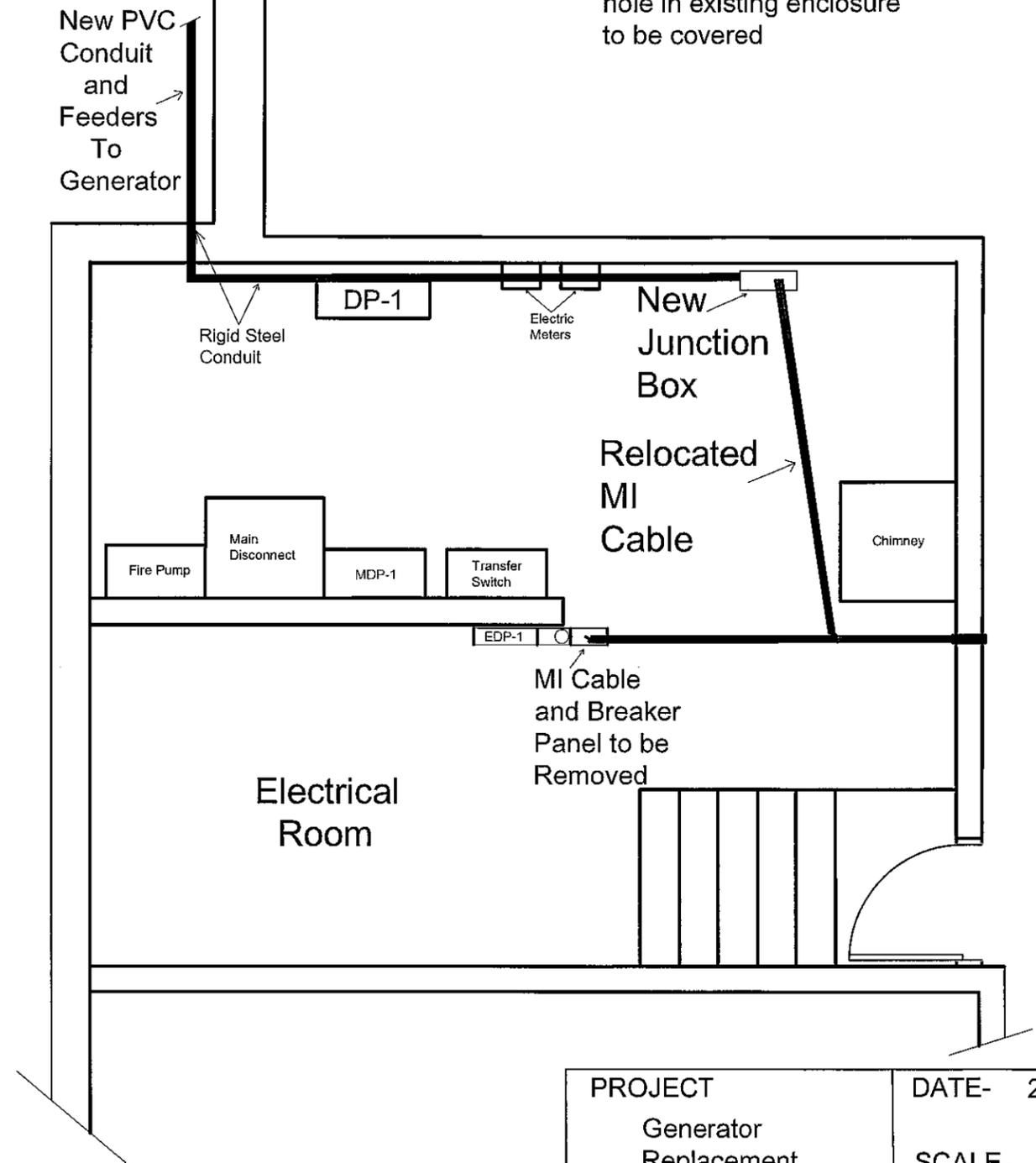
## Trench Details

### Notes

- Topsoil is to be a screened loam of  $\frac{3}{4}$ " or less
- Gravel fill is to be 3" minus
- Pipe bedding is to be "pipe sand" or "utility sand"

### Notes

- Junction Box to be 2 hour fire Rated 16" X 16" X 6"
- Existing 175 amp breaker enclosure to be removed and hole in existing enclosure to be covered

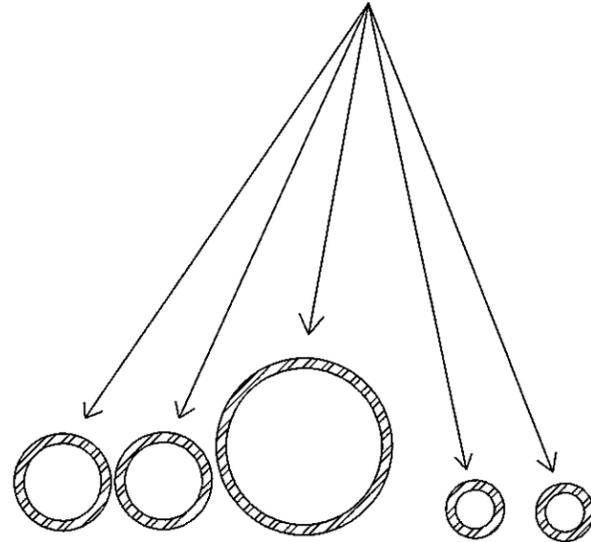


PROJECT Generator Replacement Wiring	DATE- 2/13/20
H.W.PORTER SCHOOL 3 SCHOOLHOUSE RD COLUMBIA, CT. 06237	SCALE- Not to Scale  DRAWN BY- M SYLVESTER

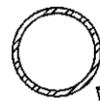
**Request for Proposals (RFP)  
Emergency Generator Replacement for Horace W. Porter School  
Columbia, CT  
Solicitation Number 001-2020**

**2020 Generator Drawing 3: Generator Replacement Wiring**

Existing Pipes Through Concrete Wall



Concrete Wall



Proposed Location  
of New Conduit  
Verify in Field

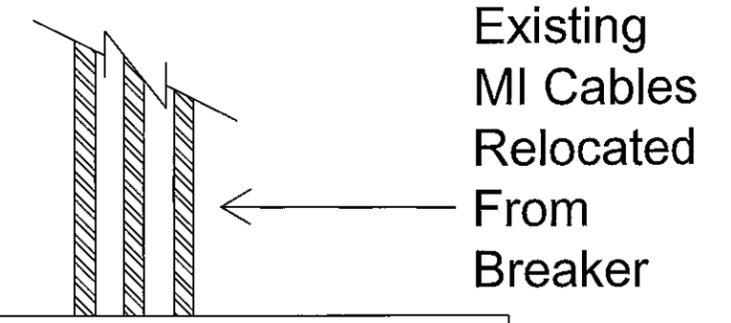
Electrical Room Pipe Entry Location

Notes

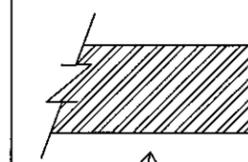
Hole through concrete foundation wall to be core bored with a bit no larger than 3-1/4"

Space around conduit is to be filled with hydraulic cement from both exterior and interior

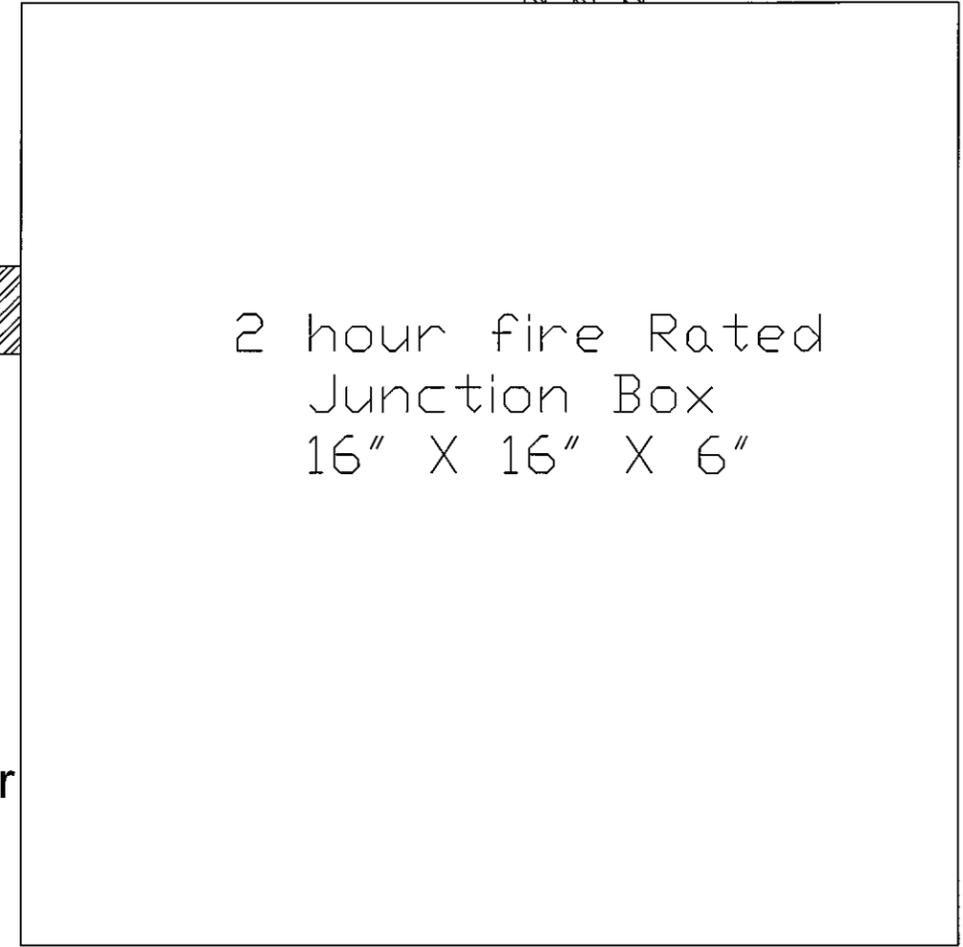
Exterior side of foundation is to be coated with foundation sealer after hydraulic cement cures



Existing  
MI Cables  
Relocated  
From  
Breaker



2" Rigid  
conduit  
From  
Generator



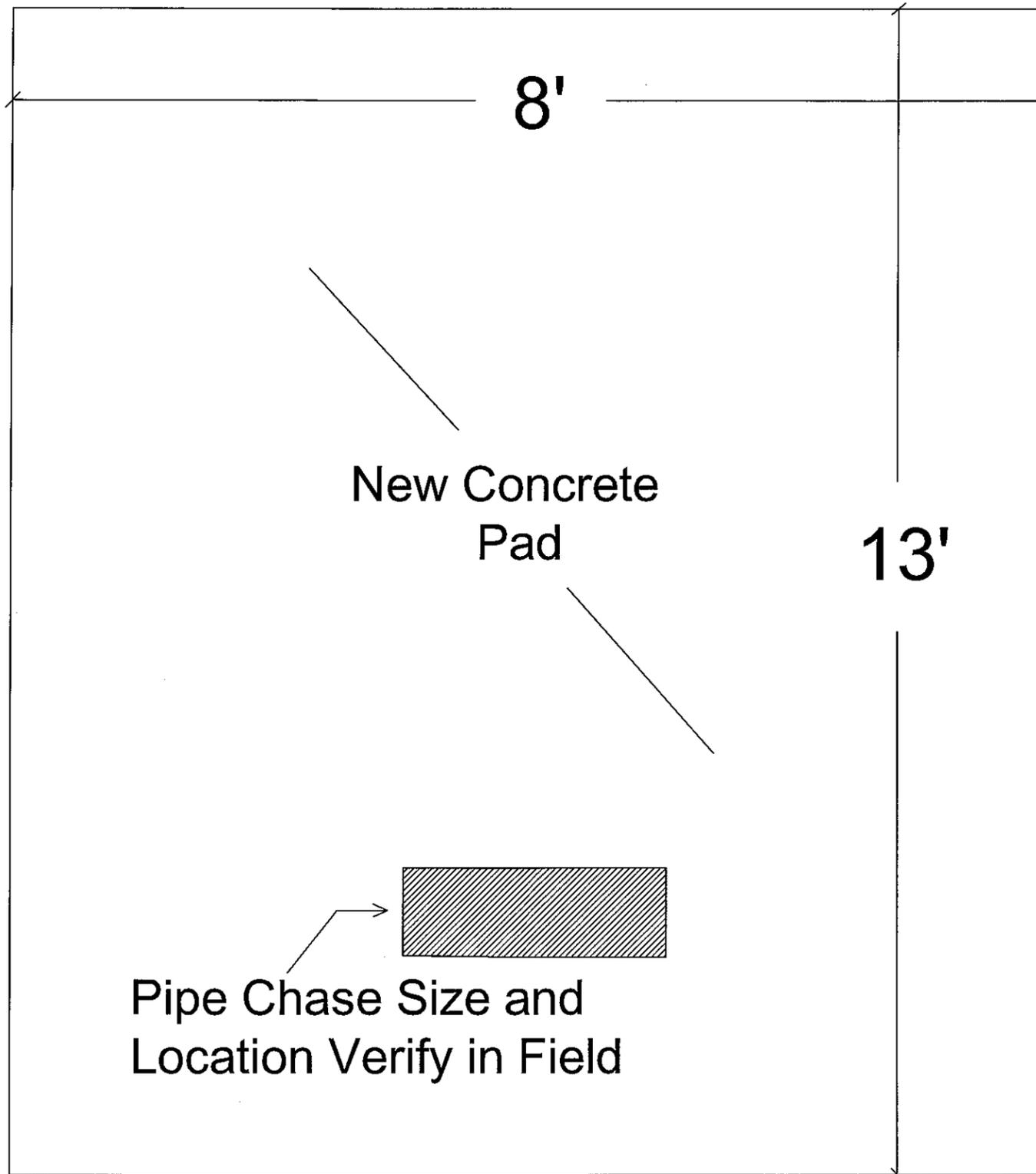
2 hour fire Rated  
Junction Box  
16" X 16" X 6"

Electrical Room Junction  
Box Location Determined  
by Existing MI cable  
Length

PROJECT Generator Replacement Wiring	DATE- 2/13/20 SCALE- <b>Not to Scale</b>
H.W.PORTER SCHOOL 3 SCHOOLHOUSE RD COLUMBIA, CT. 06237	DRAWN BY- M SYLVESTER

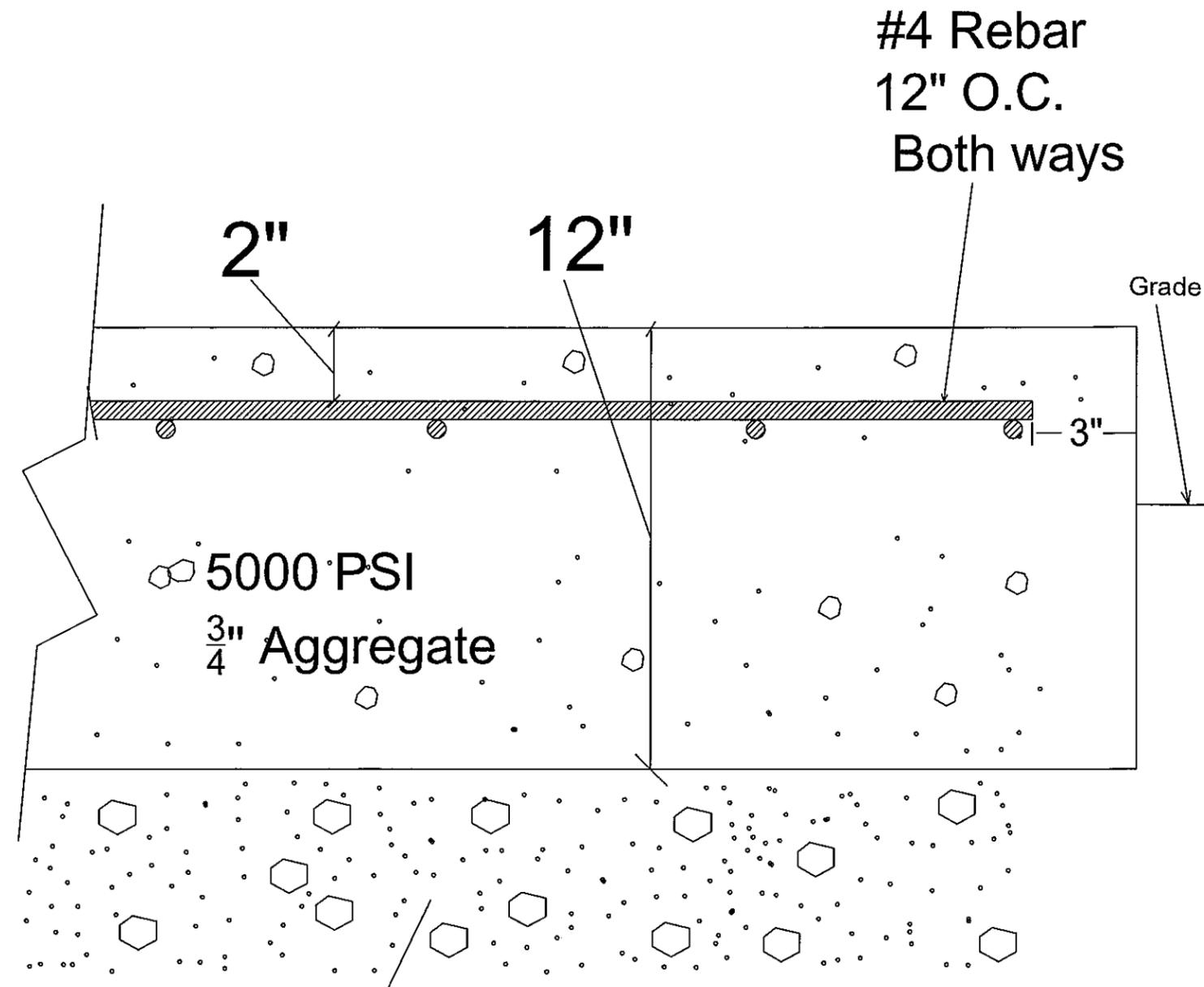
**Request for Proposals (RFP)  
Emergency Generator Replacement for Horace W. Porter School  
Columbia, CT  
Solicitation Number 001-2020**

**2020 Generator Drawing 4: Generator Replacement Concrete Pad**



**Notes**

Exact size of concrete pad to be verified by generator manufacturer  
 Concrete pad to be approximately 5" above grade



6" Compacted Gravel Base 3" minus

**Notes**

Concrete slump range to be 3"-5"  
 Concrete to be level and flat  
 Concrete to be broom Finish  
 All edges of concrete to finished with a 1/2" edging tool  
 Concrete slab to receive a 7 day moist cure with 6 mil. polyethylene plastic sheeting, secured to slab

PROJECT Generator Replacement Concrete Pad	DATE- 2/26/20 SCALE- Not to Scale
H.W.PORTER SCHOOL 3 SCHOOLHOUSE RD COLUMBIA, CT. 06237	DRAWN BY- M SYLVESTER

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

**EXHIBIT C – SAMPLE CONTRACT FOR EMERGENCY GENERATOR REPLACEMENT FOR  
HORACE W. PORTER SCHOOL**

Contract for  
EMERGENCY GENERATOR REPLACEMENT FOR HORACE W. PORTER SCHOOL  
by and between  
THE TOWN OF COLUMBIA  
and

---

This Contract is by and between THE TOWN OF COLUMBIA, a municipal corporation having its territorial limits within the County of Tolland, and State of Connecticut, hereinafter referred to as the **Town**, and \_\_\_\_\_, whose address is \_\_\_\_\_, hereinafter referred to as the **Contractor**.

WHEREAS, the Town is seeking qualified firms (including individuals) interested in providing Emergency Generator Replacement.

WHEREAS, the Contractor is qualified, ready, willing, and able to perform such services for an agreed upon compensation,

NOW, THEREFORE,

The Town and Contractor do mutually covenant and agree as follows:

**1. Scope of Services**

**1.1 General**

The Contractor agrees to provide, THE TOWN OF COLUMBIA an Emergency Generator that meets the Horace W. Porter School requirements as stated below. Prospective vendors must be experienced in evaluating the proposed systems/needs thus providing the best possible solution and installing the best type of Emergency Generator for Horace W. Porter School.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

**PART 1 – GENERAL**

**1.1 Description of Work**

A. This section includes:

1. Field verification of the site for the new generator re: concrete pad removal and reinstallation.
2. Electrical wiring/ trench location into School building.
3. Electrical connections in school building and at generator pad.
4. Crane service for removal and installation of new generator.
5. Verification/Testing of proper operation of generator.
6. Annual service of Emergency Generator.

**1.2 Submittals**

A. Emergency Standby Generator specs.

Within 10 days after award of contract, provide six sets of the following information for review:

- Manufacturer's product literature and performance data, sufficient to verify compliance to specification requirements.
- A paragraph by paragraph specification compliance statement, describing the differences between the specified and the proposed equipment.
- Manufacturer's certification of prototype testing.
- Manufacturer's published warranty documents.
- Shop drawings showing plan and elevation views with certified overall dimensions, as well as wiring interconnection details.
- Interconnection wiring diagrams showing all external connections required; with field wiring terminals marked in a consistent point to point manner.

B. Electrical box including fire rating.

Within 10 days after award of contract, provide six sets of the following information for review:

- Manufacturer's product literature for the Enclosure including certification of 2-hour fire rating.

**PART 2 – NEW GENERATOR SYSTEM (Horace W. Porter School)**

A. Acceptable Manufacturers of Generator

1. Cummins Power Generation, Minneapolis, Minnesota
2. Caterpillar Power Systems, Deerfield, Illinois

**No other manufactures will be allowed!**

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

One (1) new Cummins Power Generation model no. C150D6D or Caterpillar Power Systems equivalent, rated at 150 KW, 120/208 volts AC, 3 phase, 4 wire, 60 hertz, 1800 RPM, for operation on diesel fuel. Outdoor application package to include the standard features plus the following items:

**2.13 Diesel Generator Set:**

- A. Basis-of-Design Product: As manufactured by Cummins Power Generation; Industrial Business, Minneapolis Minnesota, Generator Set Model No. C150D6D stand-by, diesel fueled, engine-generator or Caterpillar Power Systems, Deerfield Illinois. Generator shall be 150kW, 188kVA at 0.8 PF, 60Hz, 3 phase, 4 wire, 120/208 volts AC on a continuous base. Alternator equal to the Cummins Stamford Avk UC3G, 150kW rated at 105-degree C temperature rise, with a motor starting capability of 663kVA. Furnish it an aluminum type, insulated sound attenuated enclosure with critical exhaust silencer mounted within. Provide a double-wall, sub-base type fuel tank; plus, all features and accessories specified herein.
- B. Source Limitations: Obtain packages, engine generators, and auxiliary components from a single source from single manufacturer.

**2.14 Source Quality Control:**

- A. Prototype Tainting: Factory test engine-generator set using same engine model, constructed of identical or equivalent components and equipped with identical or equivalent accessories.
  - 1. Test: Comply with NFPA-110, Level 1 Energy Converters. In addition, the equipment engine, skid, cooling system, and alternator shall have been subjected to actual prototype tests to validate the capability of the design under the abnormal conditions noted in NPFA-110. Calculations and testing on similar equipment which are allowed under NFPA-110 are not sufficient to meet this requirement.
- B. Project Specific Equipment Tests: Before shipment the engine-generator set manufactured for this project must be tested at rated load and power factor. Include the following tests below. Tests must be certified.
  - 1. Test engine generator set manufactured for this project to demonstrate compatibility and functionality.
  - 2. Full load run.
  - 3. Voltage regulation.
  - 4. Steady-state governing.
  - 5. Single step load pick-up.
  - 6. Simulated safety shutdowns.

**2.15 Generator Set Performance:**

- A. Steady-State voltage operational bandwidth: 0.5 percent of rated output voltage from load to no load. Transient Voltage Performance: Not more than 20 percent variation for 50 percent step-load increase or decrease. Voltage shall recover and remain within the steady-state operating band within 5 seconds. On application of a 100% load step the generator set shall recover to stable voltage within 10 seconds.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

- B. Steady-State Frequency Operational Bandwidth: 0.25 percent of rated frequency from no load to full load.
- C. Steady-State Frequency Stability: When system is operating at any constant load within the rated load, there shall be no random speed variations outside the steady-state operational band and no hunting or surging of speed.
- D. Transient Frequency Performance: Not more than 15 percent variation for 50 percent step-load increase or decrease. Frequency shall recover and remain within the steady-state operating band within 5 seconds. On application of a 100% load step the generator set shall recover to stable frequency within 10 seconds.
- E. Output Waveform: At full load, harmonic content measured line to line or line to neutral shall not exceed 5 percent total and 3 percent for any single harmonic. Telephone influence factor, determined according to NEMA MG 1, shall not exceed 50.
- F. Transient Frequency Performance: Not more than 15 percent variation for 50 percent step-load increase or decrease. Frequency shall recover and remain within the steady-state operating band within 5 seconds. On application of a 100% load step the generator set shall recover to stable frequency within 10 seconds.
- G. Output Waveform: At full load, harmonic content measured line to line or line to neutral shall not exceed 5 percent total and 3 percent for any single harmonic. Telephone influence factor, determined according to NEMA MG 1, shall not exceed 50.
- H. Sustained Short-Circuit Current: (For engine-generator sets using a PMG-excited alternator) For a 3-phase, bolted short circuit at system output terminals, system shall supply a minimum of 300 percent of rated full-load current for not less than 8 seconds without damage to generator system components. For a 1-phase, bolted short circuit at system output terminals, system shall regulate both voltage and current to prevent over-voltage conditions on the non-faulted phases.
- I. Motor starting capability shall be a minimum of 663 kVA. The generator set shall be capable of sustaining a minimum of 90% of rated no load voltage with the specified kVA load at near zero power factor applied to the generator set.
- J. Start Time: Comply with NFPA 110, Level 1, Type 10, system requirements.
- K. Ambient Condition Performance: Engine generator shall be designed to allow operation at full rated load in an ambient temperature under site conditions, based on highest ambient condition.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

**2.16 Engine:**

- A. Shall be equal to the Cummins QSB7-G5 as manufactured by Cummins Inc. and designed specifically for generator set duty. The engine shall be 4-cycle, diesel fueled, direct injection, piston speed of 1,464.0 ft./min., with forged steel crankshaft and connecting rods. Minimum engine displacement shall be 408.0 cubic inches (6.7 liters), 324 brake horsepower. Engine block shall be cast iron and have no less than 6 in-line cylinders. Engine shall be turbocharged and charge-air-cooled
  
- B. Lubrication system: Engine or Skid-mounted:
  - 1. Filter and Strainer: Rated to remove 90 percent of particles 5 micrometers and smaller while passing full flow.
  - 2. Thermostatic Control Valve: Control flow in system to maintain optimum oil temperature. Unit shall be capable of full flow and is designed to be fail-safe.
  - 3. Crankcase Drain: Arranged for complete gravity drainage to an easily removable container with no disassembly and without use of pumps, siphons, special tools, or appliances.
  
- C. Coolant Jacket Heater: Electric-immersion type, factory installed in coolant jacket system. Comply with NFPA 110 requirements for Level 1 equipment for heater capacity and performance.
  - 1. Heater shall be 1,500 watts and designed for operation on a single 120 volts AC, single-phase, 60Hz power connection. Heater voltage shall be shown on the project drawings.
  - 2. Installed with isolation valves to isolate the heater for replacement of the element without draining the engine cooling system or significant coolant loss.
  - 3. Provided with a 24VDC thermostat, installed at the engine thermostat housing.
  
- D. Governor: Adjustable isochronous, with speed sensing. The governing system dynamic capabilities shall be controlled as a function of engine coolant temperature to provide fast, stable operation at varying engine operating temperature conditions. The control system shall actively control the fuel rate as appropriate to the state of the engine generator. Fuel rate shall be regulated as a function of starting, accelerating to start disconnect speed, accelerating to rated speed, and operating in various isochronous states.
  
- E. Cooling System: Closed loop, liquid cooled:
  - 1. The generator set manufacturer shall provide prototype test data for the specific hardware proposed demonstrating that the machine will operate at rated full load operation in 122.0 degrees F (50 degrees C) ambient as measured at the generator air inlet. Rotating parts shall be guarded against accidental contact per OSHA requirements.
  - 2. Coolant: Solution of 50 percent ethylene glycol-based antifreeze and 50 percent water with anticorrosion additives as recommended by the engine manufacturer.
  - 3. Size of Radiator Overflow Tank: Adequate to contain expansion of total system coolant from cold start to 110 percent load condition.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

4. Temperature Control: Self-contained, thermostatic-control valve modulates coolant flow automatically to maintain optimum constant coolant temperature as recommended by the engine manufacturer.
  - F. Muffler/Silencer: Selected with performance as required to meet sound requirements of the application, sized as recommended by engine manufacturer and selected with exhaust piping system to not exceed engine manufacturer's engine backpressure requirements. For generator sets with outdoor enclosures the silencer must be located inside the enclosure.
  - G. Air-Intake Filter: Normal-duty engine-mounted air cleaner with replaceable dry-filter element and restriction indication.
  - H. Engine starting system: 12 volts DC, electric motor starter capable of three complete cranking cycles without overheating.
    1. Components: Sized so they will not be damaged during a full engine-cranking cycle with ambient temperature at maximum specified in Part 1 "Project Conditions" Article.
    2. Cranking Cycle: As required by NFPA 110 for level 1 systems.
    3. Battery Cable: Size as recommended by engine manufacturer for cable length as required. Include required interconnecting conductors and connection accessories.
    4. Battery Compartment: Factory fabricated of metal with acid-resistant finish. Thermostatically controlled heater shall be provided to maintain battery above 40 degrees F regardless of external ambient temperature within range specified in site conditions, section 1.7 of this specification.
    5. Battery charging alternator: 100 ampere factory mounted on engine with solid-state voltage regulation. The battery charging alternator shall have sufficient capacity to recharge the batteries with all parasitic loads connected within 4 hours after a normal engine starting sequence.
  - I. Positive displacement, mechanical, full pressure, lubrication oil pump.
  - J. Full flow lubrication oil filters with replaceable spin on canister elements and dipstick oil level indicator.
  - K. Flexible supply fuel line.
  - L. Provide a crankcase emission control system that shall remove a minimum of 99% of crankcase emissions. The crankcase emission control system shall reduce NOx, hydrocarbon and oil from the crankcase emissions.
- 2.17 AC Generator:**
- A. The AC generator shall be synchronous, four pole, 2/3 pitch, revolving field, single pre-lubricated sealed bearing, air cooled by a direct drive centrifugal blower fan, and directly connected to the engine with flexible drive disc rotating integrally with generator rotor.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

- B. Comply with NEMA MG 1
- C. Enclosure: Drip-proof
- D. Electrical Insulation: Class H
- E. Temperature rise measured by resistance method at full load shall not exceed 105 degrees Celsius.
- F. Construction shall prevent mechanical, electrical and thermal damage due to vibration, overspeed, up to 125 percent of rating, and head during operation at 110 percent of rated capacity.
- G. Stator-Windings Lead: Brought out to terminal box to permit future reconnection for other voltages if required.
- H. Voltage regulator: solid-state type, separate from exciter, providing performance as specified. The voltage regulation system shall be microprocessor controlled, 3-phase true RMS sensing, full wave rectified, and provide a pulse-width modulated signal to the exciter. No exceptions or deviations of these requirements will be permitted.
- I. Provide Permanent Magnet Generator (PMG) shall provide excitation power for optimum motor starting and short circuit performance
- J. The generator shall be capable of delivering rated output (kVA) at rated frequency and power factor, at any voltage not more than 5 percent above or below rated voltage.

**2.18 Generator Set Control:**

- A. The generator set shall be provided with a microprocessor-based control system that is designed to provide automatic starting, monitoring, and control functions for the generator set. The control system shall also be designed to allow local monitoring and control of the generator set, and remote monitoring and control as described in this specification.
- B. The control shall be mounted on the generator set. The control shall be vibration isolated and prototype tested to verify the durability of all components in the system under the vibration conditions encountered.
- C. The generator set mounted control shall include the following features and functions:
  - 1. Control Switches:
    - a) Mode Select Switch: The mode select switch shall initiate the following control modes. When in the RUN or Manual position the generator set shall start, and accelerate to rated speed and voltage as directed by the operator. In the OFF position the generator set shall immediately stop, bypassing all time delays. In the

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

- b) AUTO position the generator set shall be ready to accept a signal from a remote device to start and accelerate to rated speed and voltage.
  - c) Mounting Location: The generator set control panel shall be mounted on the left side of the generator for customer access. There will not be right side access.
  - d) EMERGENCY STOP Switch: Local switch mounted on the controller panel, shall be Red "mushroom-head" push button. Depressing the emergency stop switch shall cause the generator set to be immediately shut down and be locked out from automatic restarting.
  - e) RESET Switch: The RESET switch shall be used to clear a fault and allow restarting the generator set after it has shut down for any fault condition.
  - f) PANEL LAMP Switch: Depressing the panel lamp switch shall cause the entire panel to be lighted with DC control power. The panel lamps shall automatically be switched off 10 minutes after the switch is depressed, or after the switch is depressed a second time.
2. Generator Set AC Output Metering: The generator set shall be provided with a metering set including the following features and functions:
- a) Digital metering, 1% accuracy, to indicate generator RMS voltage and current, frequency, output current, output KW, KW hours, and Power Factor. Generator output voltage shall be available in line to line and line to neutral voltages, and shall display all three-phase voltages (line-to-neutral or line-to-line) simultaneously.
  - b) The control system shall monitor the total load on the generator set and maintain data logs of total operating hours at specific load levels ranging from 0 to 110% of rated load, in 10% increments. The control shall display hours of operation at less than 30% load and total hours of operation at more than 90% of rated load.
  - c) The control system shall log total number of operating hours, total kW-H, and total control on hours, as well as total values since reset.
3. Generator Set Alarm and Status Display
- a) The generator set control shall include LED alarm and status indication lamps. The lamps shall be high intensity LED type. The lamp condition shall be clearly apparent under bright room lighting conditions. Functions indicated by the lamps shall include:
    - The control shall include five configurable alarm-indicating lamps. The lamps shall be field adjustable for function, color, and control action (status, warning, or shutdown).
    - The control shall include green lamps to indicate that the generator set is running at rated frequency and voltage, and that a remote start signal has been received at the generator set. The running signal shall be based on actual sensed voltage and frequency on the output terminals of the generator set.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

- The control shall include a flashing red lamp to indicate that the control is not in automatic state, and red common shutdown lamp.
  - The control shall include an amber common warning indication lamp.
- b) The generator set control shall indicate the existence of the following alarms and shutdown conditions on an alphanumeric digital display panel:
- low oil pressure (alarm)
  - low oil pressure (shutdown)
  - oil pressure sender failure (alarm)
  - low coolant temperature (alarm)
  - high coolant temperature (alarm)
  - high coolant temperature (shutdown)
  - high oil temperature (warning)
  - engine temperature sender failure (alarm)
  - low coolant level (alarm or shutdown selectable)
  - fail to crank (shutdown)
  - fail to start/overcrank (shutdown)
  - overspeed (shutdown)
  - low DC voltage (alarm)
  - high DC voltage (alarm)
  - weak battery (alarm)
  - high AC voltage (shutdown)
  - low AC voltage (shutdown)
  - under frequency (shutdown)
  - over current (warning)
  - over current (shutdown)
  - short circuit (shutdown)
  - overload (alarm)
  - emergency stop (shutdown)
- c) Provisions shall be made for indication of four customer specified alarm or shutdown conditions. Labeling of the customer-specified alarm or shutdown conditions shall be of the same type and quality as the above-specified conditions. The non-automatic indicating lamp shall be red and shall flash, to indicate that the generator set is not able to automatically respond to a command to start from a remote location.
- d) The control shutdown fault conditions shall be configurable for fault bypass.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

4. Engine Status Monitoring
  - a) The following information shall be available from a digital status panel on the generator set control:
    - engine oil pressure (psi or kPA)
    - engine coolant temperature (degrees F or C)
    - engine oil temperature (degrees F or C)
    - engine speed (rpm)
    - number of hours of operation (hours)
    - number of starts attempts
    - battery voltage (DC volts)
  - b) The control system shall also incorporate a data logging and display provision to allow logging of the last 10 warning or shutdown indications on the generator set, as well as total time of operation at various loads, as a percent of the standby rating of the generator set.
5. Engine Control Functions:
  - a) The control system provided shall include a cycle cranking system, which allows for user selected crank time, rest time, and # of cycles. Initial settings shall be for 3 cranking periods of 15 seconds each, with 15-second rest period between cranking periods.
  - b) The control system shall include an idle mode control, which allows the engine to run in idle mode in the RUN position only. In this mode, the alternator excitation system shall be disabled.
  - c) The control system shall include an engine governor control, which functions to provide steady state frequency regulation as noted elsewhere in this specification. The governor control shall include adjustments for gain, damping, and a ramping function to control engine speed and limit exhaust smoke while the unit is starting.
  - d) The control system shall include time delay start (adjustable 0 - 300 seconds) and time delay stop (adjustable 0 - 600 seconds) functions.
  - e) The control system shall include sender failure monitoring logic for speed sensing, oil pressure, and engine temperature which is capable of discriminating between failed sender or wiring components, and an actual failure condition.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

6. Alternator Protection Relay:

The generator set shall be provided with a UL Listed/CSA Certified protective device that is coordinated with the alternator provided to prevent damage to the generator set on any possible overload or overcurrent condition external to the machine. The protective relay shall be listed as a utility-grade protective device under UL category NRGU. The control system shall be subject to UL follow-up service at the manufacturing location to verify the protective system is fully operational as manufactured. Protector shall perform the following functions:

- a) The protective device shall allow continuous operation at rated current level of the generator set without tripping. It shall initiate a generator kW overload alarm when generator has operated at an overload equivalent to 110 percent of full-rated load for 60 seconds. Indication for this alarm is integrated with other generator-set malfunction alarms.
- b) Under single phase or multiple phase fault conditions, or on overload conditions, indicates an alarm conditions when the current flow is in excess of 110% of rated current for more than 10 seconds.
- c) Under single phase or multiple phase fault conditions, operates to switch off alternator excitation at the appropriate time to prevent damage to the alternator. The control logic of the protective device shall include integrated time-based functions to prevent alternator damage on multiple fault conditions that occur over short time periods.
- d) The protective system provided shall not include an instantaneous trip function.
- e) The operator panel shall indicate the nature of the fault condition as either a short circuit or an overload.
- f) The over current protective system shall include a maintenance mode in compliance to the National Electrical Code section 240.87 which disables the alternator excitation system within 50 milliseconds when output current on any phase is more than three times rated current. The mode shall be operational for any fault from the terminals of the generator throughout the distribution system.
- g) Senses clearing of a fault by other overcurrent devices and controls recovery of rated voltage to avoid overshoot greater than 120% of nominal voltage.
- h) Ground-Fault Protection/Indication: The control system shall include an input for measurement of ground fault current, and protection that is configurable for current level and time delay, as well as trip or alarm. The generator system shall be separately derived, with a single neutral to ground bonding point for the system. Ground fault sensing for the generators shall be located at the neutral to ground bonding point.
- i) The control system shall be provided with arc flash reduction capability in compliance to NEC 240.87(B)(3).

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

7. Other Control Functions:

- a) The generator set shall be provided with a network communication module to allow LonMark compliant communication with the generator set control by remote devices. The control shall communicate all engine and alternator data and allow starting and stopping of the generator set via the network in both test and emergency modes.
- b) A battery monitoring system shall be provided which initiates alarms when the DC control and starting voltage is less than 13 Volts DC or more than 17 Volts DC. During engine cranking (starter engaged), the low voltage limit shall be disabled, and DC voltage shall be monitored as load is applied to the battery, to detect impending battery failure or deteriorated battery condition.

8. Control Interfaces for Remote Monitoring:

- a) The control system shall provide two programmable output relays. These relay outputs shall be configurable for any alarm, shutdown, or status condition monitored by the control. The relays shall be configured to indicate: generator set operating at rated voltage and frequency and common shutdown.
- b) A fused 10-amp switched 12VDC power supply circuit shall be provided for customer use. DC power shall be available from this circuit whenever the generator set is running.
- c) A fused 10-amp 12VDC power supply circuit shall be provided for customer use. DC power shall be available from this circuit at all times from the engine starting/control batteries.
- d) The controller panel shall be provided with a direct serial communication link for the ModBus RTU communication to customer's network interface.

**2.19 Base:**

- A. The engine-generator set shall be mounted on a heavy-duty steel base to maintain alignment between components. The base shall incorporate a battery tray with hold-down clamps within the rails.

**2.20 Exhaust System:**

- A. A critical grade exhaust silencer shall be provided for the generator set. The silencer shall be critical grade type and attenuated to a minimum of 25 dB(A).
- B. All exterior fittings, accessories and bolts shall be type 304 stainless steel. Provide heat resistant gaskets between all flanged connections to serve as dielectric protectors.
- C. Maximum gas flow shall not exceed 1,258 cfm. The exhaust gas temperature shall not exceed 872 degrees F. The maximum back pressure shall not exceed 40.19 inches of water.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

- D. The design of the entire exhaust system is based on the above data. If a substitution of a model specified is made, all costs incurred to redesign as well as costs to other trades to modify the layout shall be the complete responsibility of the electrical contractor.
- E. Provide a stainless-steel flexible exhaust connection for the engine as required for connection between the engine exhaust manifold and the exhaust lines in compliance with acceptable codes.
- F. Provide an exhaust system condensation trap and drain valve to trap and drain off exhaust condensation and to prevent condensation from entering the engine.

**2.21 Generator Set Auxiliary Equipment and Accessories:**

- A. Vibration Isolators: Shall be provided with elastomeric isolator pads integral to the generator unless the engine manufacturer requires spring isolator type.
- B. Starting and Control Batteries: 12 volts DC, Lead-Acid type starting batteries with quantity and sized as recommended by the generator set manufacturer.
- C. Battery Charger: Current limiting, automatic equalizing, and float charging type designed for either Lead-Acid and NiCad batteries in generator set installation. Battery charger shall be 4-state charging cycle for optimum battery life. Unit shall UL-1236/CSA and include the following features:
  - 1. Operation: Equalizing-charging rate of 10 amps shall be initiated automatically after battery has lost charge until an adjustable equalizing voltage is achieved at battery terminals. Unit shall be then automatically switched to a lower float charging mode and shall continue to operate in that mode until the battery is discharged again. Battery charger shall be field configurable for charging either 12- or 24-volts DC battery systems at 50 or 60 Hz operation.
  - 2. Automatic temperature compensation: Adjust float and equalize voltages for variations in ambient temperature from minus 4 degrees F (minus 20 degree C) to 104-degree F (45-degree F) to prevent overcharging at high temperatures and under charging at low temperatures.
  - 3. Automatic voltage regulation: Maintain constant output voltage regardless of input voltage variations up to plus or minus 0.5 percent (%).
  - 4. Monitoring: Status LED indications are provided to show the conditions of the charger. LED's monitor indicates operation functions for temperature, compensation active (green), AC on (green) Float (green) or boost (amber) mode, as well as a Battery Fault alarm (red). LED's shall illuminate red when the charger fails. Additionally, a user display shall be provided showing output voltage and current fault information and status are indicated on the front panel. Includes precision ammeter and voltmeter.
  - 5. Safety Functions: The charger shall sense and annunciate AC power loss, battery overvoltage, battery undervoltage, battery fault conditions, and battery charger malfunction
  - 6. Enclosure and Mounting: NEMA 250, Type 1, (IP20) corrosion resistant aluminum enclosure designed for wall mounting.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

- A. Generator main circuit breaker: Provide two (2) generator mounted circuit breakers, 3-pole, 600 volts AC class, UL listed with LSi electronic-trip, 100% rated. Circuit breaker sizes shall be 400AF & 200AF, or as listed in the project drawings. Submittals shall demonstrate that the circuit breaker provides proper protection for the alternator by a comparison of the trip characteristic of the breaker with the thermal damage characteristic of the alternator. Field circuit breakers shall not be acceptable for generator overcurrent protection.
- B. Remote Alarm Annunciator: An LED indicator light labeled with proper alarm conditions shall identify each alarm event, and a common audible signal shall sound for each alarm condition. Silencing switch in face of panel shall silence signal without altering visual indication. Connect so that after an alarm is silenced, clearing of initiating condition will reactivate alarm until silencing switch is reset. Cabinet and faceplate are surface- or flush-mounting type to suit mounting conditions indicated.
- Overcrank alarm.
  - Coolant low-temperature alarm.
  - High engine temperature pre-alarm.
  - High engine temperature alarm.
  - Low lube oil pressure alarm.
  - Overspeed alarm.
  - Low-fuel main tank alarm.
  - Low coolant level alarm.
  - Low-cranking voltage alarm.
  - Contacts for local and remote common alarm.
  - Audible-alarm silencing switch.
  - Air shutdown damper when used.
  - Run-Off-Auto switch.
  - Control switch not in automatic position alarm.
  - Fuel tank derangement alarm.
  - Fuel tank high-level shutdown of fuel-supply alarm.
  - Lamp test.
  - Low-cranking voltage alarm.
  - Generator overcurrent protective device not closed.
- C. Remote Emergency-Stop Switch: Flush; wall mounted, unless otherwise indicated; and labeled. Push button shall be protected from accidental operation.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

**2.22 Outdoor Generator-Set Enclosure:**

Vandal-resistant, sound-attenuating, weather-proof aluminum type housing. Wind resistance up to 180MPH. Multiple panels shall be lockable and provide adequate access to components requiring maintenance. Instruments, control, battery system, and associated equipment shall be mounted within the enclosure.

A. Construction:

1. Enclosure shall be aluminum type
2. Louvers: Equipped with bird screen to permit air circulation when engine is not running while excluding birds and rodents.
3. Hinged Doors: With padlocking provisions. Restraint/Hold back hardware to prevent door to keep door open at 180 degrees during maintenance. Rain lips over all doors.
4. Exhaust System: Muffler Location: Within enclosure.
5. Hardware: All hardware and hinges shall be stainless steel.
6. Mounting Base: Suitable for mounting on sub-base fuel tank or housekeeping pad.
7. A weather protective enclosure shall be provided which allows the generator set to operate at full rated load with a static pressure drop equal to or less than 0.5 inches of water.
8. Inlet ducts shall include rain hoods
9. Finishes: Powder coated and baked over corrosion resistant pre-treatment and compatible primer.
10. Louvers: Fixed-engine, cooling-air inlet and discharge.

B. Sound Performance: Reduce the sound level of the engine generator while operating at full rated load to a maximum of 72.0 dB(A) measured at 23 feet from the engine generator in a free field environment. Maximum difference between any two readings used in an average must not exceed 2 dB(A).

C. Site Provisions: Lifting: Complete assembly of engine generator, enclosure, and sub base fuel tank shall be designed to be lifted into place as a single unit, using spreader bars.

**2.23 Sub-Base Tank:**

- A. Provide a U.L.142 listed regional sub-base fuel tank with enough capacity for 785 U.S gallons and operation up to 66-hours at full load. The tank shall be of a double-wall construction and must have a rupture basin that is 125% of nominal capacity.
- B. Fuel tank shall include fuel gauge, low/high level switches, leak detection switch, normal and emergency vents, fittings for fuel suction and return lines, lockable fuel fill port and NPT drain port for the rupture basin.
- C. Fuel tank must ship from the factory fully assembled and mounted to the generator set and enclosure system. Fuel tanks that ship loose and required separate riggings and field assembly will not be accepted.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

**2.24 Factory Testing:**

The generator set and transfer switch shall be factory tested shall perform a complete operational test prior to shipping from the factory.

- A. A certified factory test report is required. The process shall include calibration of voltage sensors and safety shutdown procedures.

**PART 3 – EXECUTION**

**3.1 Examination:**

- A. Examine areas, equipment bases and conditions with installer present for compliance with requirements for installation and other conditions affecting package engine-generator performance.
- B. Examine roughing-in of piping systems and electrical connections. Verify locations of connections before package engine-generator installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

**3.2 Installation**

- A. Comply with packaged engine-generator manufacturers' written installation and alignment instructions and with NFPA 110.
- B. Install packaged engine generator to provide access, without removing connections or accessories, for periodic maintenance.
- C. Install packaged engine generator on cast-in-place concrete equipment base. Comply with requirements for equipment bases and foundations specified in Section "Cast-in-Place Concrete".
- D. Comply with requirements for seismic control devices specified in Section 260548 "Vibration and Seismic Controls for Electrical Systems."
- E. Comply with requirements for vibration isolation devices specified in this section.
- F. Install remote emergency stop switch(es) and remote annunciator in locations required by code with wiring per manufacturer's recommendations.
- G. Electrical Wiring: Install electrical devices furnished by equipment manufacturers but not specified to be factory mounted.

**3.3 Connections:**

- A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping and specialties.
- B. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."
- C. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

**3.4 Identification:**

- A. Identify system components according to Section 260553 "Identification for Electrical Systems."
- B. Provide a sign at the building service entrance equipment indicating type and location of generator.

**3.5 On-Site Acceptance Test:**

- A. The complete installation shall be tested to verify compliance with the performance requirements of this specification following completion of all site work. Testing shall be conducted by representatives of the manufacturer, with required fuel supplied by Contractor. The Engineer shall be notified in advance and shall have the option to witness the tests. The generator set manufacturer shall provide a site test specification covering the entire system.
- B. Prior to start of active testing, all field connections for wiring, power conductors, and bus bar connections shall be checked for proper tightening torque.
- C. Installation acceptance tests to be conducted on site shall include a "cold start" test and followed by a two (2) hour full load test, and a one-step rated load pickup test in accordance with NFPA 110. Provide a resistive load bank and make temporary connections for full load test, if necessary.
- D. Perform a power failure test on the entire installed system. This test shall be conducted by opening the power supply from the utility service and observing proper operation of the system for at least 2 hours. Coordinate timing and obtain approval for start of test with site personnel.

**3.6 Owner Training**

- A. The equipment supplier shall provide training for the facility operating personnel covering operation and maintenance of the new equipment provided and existing equipment being relocated. The training program shall be not less than 2 hours in duration and the class size shall be limited to 5 persons. Training date shall be coordinated with the facility owner.

**3.7 Service and Support**

- A. The generator set supplier shall maintain service parts inventory for the entire power system at a central location which is accessible to the service location 24 hours per day, 365 days per year. The inventory shall have a commercial value of \$3 million or more. The manufacturer of the generator set shall maintain a central parts inventory to support the supplier, covering all the major components of the power system, including engines, alternators, control systems, paralleling electronics, and power transfer equipment.
- B. The generator set shall be serviced by a local service organization that is trained and factory certified in generator set service. The supplier shall maintain an inventory of critical power system replacement parts in the local service location. Service vehicles shall be stocked with critical replacement parts. The service organization shall be on call 24 hours per day, 365 days per year.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

- C. The manufacturer shall maintain model and serial number records of each generator set provided for at least 20 years
- D. The generator set supplier is to include a 1-year preventative maintenance agreement including one (1) full preventive maintenance service and one (1) preventative inspection.

**PART 4-SCOPE OF WORK**

**4.1 Project Details**

- A. Generator installation is to be completed by August 21, 2020, this is to include all concrete work, trenching, pipe installed along with new power feeders installed and connections terminated, trench to be back filled, topsoil in place and grass seed applied, all interior pipe and wiring installed and completed, generator to be started and tested by the completion date.
- B. Work on the existing generator cannot start until the school has completed the school year or June 30th, 2020 whichever comes first.
- C. Contractor is to be responsible for proper permits, with Town of Columbia permit fees to be waived.
- D. Contractor is to be responsible for all field measurements, ordering of the generator, and taking receipt of the generator, along with the coordination of subcontractors on the site.
- E. Work on the Town and School grounds is to be scheduled through the Columbia BOE Facilities Manager, Michael Sylvester at 860-228-9493 ext. 182 or [msylvester@hwporter.org](mailto:msylvester@hwporter.org)
- F. Contractor is responsible for the removal from the existing location of the Emergency Standby Generator, to a Town vehicle which will transport the generator to the public works garage and will need to be removed from the vehicle. This item will not be the contractor's responsibility if the trade in quote is accepted by the Town of Columbia.
- G. Work hours at job site are from 7:00 am to 4:00 pm Monday thru Friday excluding any holidays. Saturday upon request.
- H. Generator is to have a 2-year warranty on failed parts or damage due to a defect in the manufacturer's materials or factory workmanship. Repairs due to a defect are to be repaired at no cost to the Town of Columbia or the Columbia Board of Education during the warranty period.
- I. Subcontracts and/or subcontractors to the awarded contractor shall be the sole responsibility of said contractor. The Town of Columbia reserves the right to suspend, stop, or terminate work if it is deemed unsafe, not to specifications, or contractors/subcontractors acting in an unprofessional manner.
- J. Technicians completing the generator startup and testing are to be factory trained technicians.
- K. Contractor is responsible to secure new generator to concrete pad per manufacturers specifications.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

- L. Change orders if applicable can only be priced at a maximum of 10% markup on materials, services and labor related to the change order. Documentation of pricing will be required.

**4.2 Concrete**

- A. Existing concrete slab is to be removed from the site and disposed of properly. To be recycled at Willimantic Waste’s construction and demolition recycling facility, 1590 West Main St. Willimantic CT 06226.
- B. Existing subsurface is to be determined if it is adequate to remain by a Town of Columbia representative. If the subsurface is determined to be removed, the contractor will do so at no additional cost to the Town of Columbia.
- C. The site for the new larger concrete pad is to be prepped with a proper subsurface of gravel and compacted sufficiently before the forms for the pad are put in place.
- D. Reinforcing bars are to be placed in the form at the proper elevation and tied together in both directions before concrete is poured.
- E. The finish of the concrete pad will be “broom finish”.
- F. Upon completion of the finishing of the concrete and to the point that the surface will not be ruined, the plastic sheet is to be applied and the concrete is to be kept moist for 7 days.
- G. No work is to take place on the concrete slab for a minimum of 14 days other than the removal of the plastic covering the slab after 7 days.
- H. After completion of the concrete slab all construction debris including forms and curing plastic are to be removed from the site

**4.3 Trenching**

- A. “Call Before You Dig” is to be called by the contractor and utilities into the building are to be identified before any work is to start. Michael Sylvester Columbia Board of Education Facilities manager is to be notified when “Call Before you Dig” is to be on the school grounds.
- B. coordination of starting the trenching is to be made with Facilities Manager Michael Sylvester at either [msylvester@hwporter.org](mailto:msylvester@hwporter.org) or 860-228-9493 ext. 182 at least 2 days before starting to dig.
- C. Materials are not to be stored on the pavement or grass areas without approval from the Town of Columbia or Columbia Board of Education.
- D. The area around the trenching is to be secured by caution tape to keep pedestrians safe from the equipment and the trench, during the work hours. The work area will need to be made safe by the use of safety fencing if it is to be left open and unattended i.e. Overnight or weekend.
- E. Trench Width: Pipe trenches are shall be made as narrow as practicable and shall not be widened by scraping or loosening of materials from the sides. Every effort shall be made to keep the sides of the trenches firm and undisturbed until backfilling has been completed and consolidated.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

- F. Pipe Bedding is to be sandy material with an aggregate no larger than 3/8". Pipe to have a minimum of 6" of pipe bedding under and on the sides of the pipe. The top of the pipe to have 12" minimum of pipe bedding.
- G. Backfilling of the trench is to be completed in 6" lifts and compacted adequately before starting the next lift.
- H. After backfilling loam in trench, it is to be rolled with a 150 lb. roller to prevent settling.

**4.4 Electrical**

- A. Disconnecting of existing wiring to existing generator in preparation of removal of the old generator.
- B. To coordinate the drilling of concrete foundation wall to ensure the proper location entering the building.
- C. Install new 2-hour fire rated junction box in Electrical room.
- D. To install new 2" rigid conduit in Electrical room from the exterior to new junction box.
- E. To install new 2" PVC conduit in trench from rigid conduit to new generator pad. To assist/supervise in the backfilling of the conduit to ensure proper placement and no damage to pipe.
- F. To install new feeders and ground conductors from new junction box to new generator pad.
- G. To disconnect existing MI cable from 175 amp. circuit breaker and relocate MI cable to new junction box in Electrical room. Make new splices from MI cable to new feeders from generator.
- H. Disconnect and remove existing 175 amp. Circuit breaker and enclosure making sure to seal all holes in the remaining enclosure.
- I. To assist with the setting of the new generator to prevent damage of the existing feeders and control wires.
- J. To make all connections at the generator for power, controls and battery charging
- K. To assist in the startup and testing of the generator to verify proper operation.

**4.5 Crane**

- A. To be used for removal of the existing generator, removal of new generator from shipping truck and installation of new generator on concrete pad.
- B. Contractor is responsible to determine the size of the crane needed to complete all of the moves listed in 3.05-A.
- C. Contractor will be responsible for all coordination of possible driveway and or parking lot closure due to the crane and delivery vehicle blocking portions of the driveway or parking lot. Contractor is to notify Michael Sylvester Facilities Manager, Columbia Board of Education prior to the possible closure.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

**PART 5 - CONTRACT TERMS, STANDARDS AND COMPENSATION**

**5.1 Technical Standards**

The Contractor shall perform all work in accordance with good engineering practice and all applicable local, state and federal industry standards.

**5.2 Term of Contract**

The term of this Contract shall be determined by the annual contract service, inclusive.

**5.3 Compensation**

**5.3.1 Negotiated Fee**

The fee proposal shall include the lump sum cost to the Town of providing the proposed services, unless another cost basis is approved by the Town (e.g., unit cost). If applicable, the costs shall be listed for each task or phase. If requested by the Town, additional information such as the estimated number of man-hours of each position classification per task or phase shall be submitted. The fee proposal shall include an allowance for estimated reimbursable expenses for normal reimbursable out-of-pocket costs such as outside printing costs and approved subcontractor and subcontractor fees. All anticipated reimbursable expenses for each specific project shall be itemized in the fee proposal, with unit and estimated total costs listed for each expense. Reimbursement shall be for actual out-of-pocket costs including the services of subcontractors and shall not include a mark-up and shall not be made for normal overhead expenses such as office supplies, telephone charges, mileage, and inside copying and printing.

Once the scope of services, schedule, proposed staffing plan, and the proposed compensation have been accepted by the Town, the Town will authorize the Contractor to proceed with the work, which shall be performed in accordance with the accepted proposal and the terms and conditions of this Contract.

The Contractor shall prepare and submit invoices accompanied by such documentation as may be required by the Town. Payments will be made to the Contractor within 30 days of Town approval of each invoice. Payments are conditioned upon the satisfactory performance of all work. In the event that the Town determines the Contractor to be in nonconformance with the terms of this Contract or if in the Town's judgment the Contractor's work is not satisfactory, the Town may take corrective action, including, but not limited to, the following:

- 1) Delay of payment
- 2) Adjustment of payment
- 3) Suspension or termination of this Contract

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

The Contractor agrees to meet with representatives of the Town, at no cost to the Town, to discuss billing issues as the Town deems necessary. Payments to the Contractor will be made on a periodic basis in accordance with the percentage of work actually completed. Payments for each phase of the work within the project will be prorated based upon the amount of work actually completed within that phase. Except in the case of work which is performed on an hourly rate basis, the amount of the payment for a fixed fee task will not be based simply on the amount of hours expended by the Contractor on the task.

**5.4 Management and Administration of the Contract**

The Town's designated Managing Authority for this Contract will be the Town Administrator, or his authorized designee, who will have complete authority to act for and on behalf of the Town and control, supervise, and direct the Contractor's activities hereunder. The Managing Authority will make all arrangements for services by the Contractor. All proposals for work to be done under this Contract and any resulting expenditures must be approved by said Managing Authority before any work is initiated or any expenditure made. Services are to be provided by the Contractor, except where the use of specific subcontractors or subcontractors has been approved in writing by the Town for a particular project.

The Contractor's primary contact person will be \_\_\_\_\_, who will communicate and report directly to the Town's Managing Authority, be responsible for directing and coordinating the activities of the firm's personnel and approved subcontractors and subcontractors, provide information for projects assigned under this Contract as may be required from time to time by the Town and shall be authorized to prepare and execute proposals, including scopes of services, fee proposals, proposed staffing plans, and schedules as requested by the Town under this Contract.

The Contractor and the Town shall work closely together in all aspects of this program, and each shall follow the reasonable suggestions of the other to improve the operation of the program.

**5.5 Relationship Between the Parties**

It is mutually agreed that the Contractor, including its employees, is an independent contractor and not an officer, employee, or agent of the Town, and that this Contract is a contract for services and not a contract of employment, and that, as such, the Contractor and its employees shall not be entitled to any employment benefits from the Town such as, but not limited to: vacation, sick leave, insurance, workers' compensation, pension and retirement benefits. All personnel matters affecting Contractor's staff will be the responsibility of the Contractor.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

In no event shall anything in this Contract be deemed to confer upon any person or entity agency status or third-party beneficiary rights against the Town.

**5.6 Indemnification and Hold Harmless Contract**

To the fullest extent permitted by law the Contractor shall at all times indemnify and save harmless the Town and its officers, agents, and employees on account of and from any and all claims, damages, losses, workers' compensation payments, judgments, litigation expenses, and legal counsel fees arising out of injuries to persons (including death) or damage to property alleged to have been caused in whole or in part by the willful, wanton, or negligent acts or omissions of the Contractor, his employees, subcontractors, subcontractors, or materialmen. The existence of insurance shall in no way limit the scope of this indemnification. The Contractor shall reimburse the Town for damage to property of the Town caused by the Contractor, or his employees, subcontractors, subcontractors, or materialmen.

**5.7 Insurance**

The selected Contractor shall furnish a Certificate of Insurance evidencing the following insurance coverage in effect on or before the date of execution of this Contract. Insurance coverage shall remain in full force for the duration of the Contract term, including any extensions. Renewal certificates shall be furnished at least thirty (30) days prior to policy expiration. Failure to maintain insurance coverage as required and to name the Town as an Additional Insured will be grounds for termination of the Contract. The interest of the Town shall be included in all insurance policies required herein, except Workers' Compensation and Professional Liability, as Additional Insured as its interest may appear, which shall be noted on the Certificate of Insurance, and shall include, but not be limited to, investigation, defense, and payment of settlement or judgment. Such insurance must be written by companies of recognized standing, qualified and licensed to engage in the insurance business in the State of Connecticut. All deductibles are the sole responsibility of the Contractor to pay and/or indemnify.

The Contractor awarded this proposal must provide a current Certificate of Insurance to the Town Administrator PRIOR to commencement of work, with the following requirements:

**Insured Limits and Coverage:**

- A. To the extent applicable, the amounts and types of insurance will conform to the minimum terms and conditions and coverages of the national Insurance Services Office (ISO) policies, forms, and endorsements.
- B. If the contractor/insured has self-insured retention's or deductibles under any of the following minimum required coverage's, the contractor/insured must

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

- C. identify on the certificate of insurance the nature and amount of such self-insured retention's or deductibles and provide satisfactory evidence of financial responsibility for such obligations. All self-insured retention's or deductibles will be the contractor/insured's sole responsibility.
- D. Commercial General Liability: The contractor/insured will maintain commercial general liability insurance covering all operations by or on behalf of the contractor/insured on an occurrence basis against all claims for personal injury (including bodily injury or death) and property damage (including loss of use).

Such insurance will have these minimum limits:

- \$ 1,000,000 each occurrence.
  - \$ 1,000,000 each occurrence if blasting is required.
  - \$ 2,000,000 general aggregate with dedicated limits per project site.
  - \$ 2,000,000 products and completed operations aggregate.
  - \$ 1,000,000 personal and advertising injury.
- E. Automobile Liability: The contractor/insured will maintain business auto liability coverage for liability arising out of any auto, including owned, hired, and non-owned autos.
- F. Workers' Compensation: The contractor/insured will maintain workers' compensation and employer's liability insurance in the following minimum limits:
- Workers' Compensation: statutory limits.
  - Employer's Liability: \$1,000,000 bodily injury for each accident.
  - Employer's Liability: \$1,000,000 bodily injury by disease each employee.
  - Employer's Liability: \$1,000,000 bodily injury disease aggregate.
- G. Professional Liability: \$1,000,000
- H. Governing Law: This agreement shall be governed by the laws of the State of Connecticut.
- I. These are minimum insurance limit requirements only. Additional insurance coverage's and amounts may be required by the Town of Columbia on a per project basis.

**5.8 Ethics and Conflict of Interest**

In order to avoid perceived or actual conflicts of interest, the Contractor shall disclose to the Town any known special personal or financial interests, beyond those applicable to the general public, of the Contractor, its employees, subcontractors, or subcontractors, regarding any matter that they are working on under this Contract. The Town will determine if a significant conflict of interest exists, and if necessary, will assign the work to others to avoid the conflict of interest.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

**5.9 Events of Default and Remedies**

5.9.1 Events of Default

Any of the following occurrences or acts shall constitute an Event of Default under this Contract:

- 5.9.1.1 If in the opinion of the Town, default shall have been made by the Contractor, its successors or assigns, in the performance or observance of any of the covenants, conditions or Contracts on the part of the Contractor set forth in this Contract; or
- 5.9.1.2 If in the opinion of the Town, the Contractor fails to deliver services by the dates agreed upon for any specific project and the Contractor has not received written approval from the Town for an extension to the agreed upon schedule; or
- 5.9.1.3 If any determination shall have been made by a competent authority such as, but not limited to, any authorized federal, state or local government official, or a certified public accountant, that the Contractor's management or any accounting for its funding, from whatever source, is improper, inadequate or illegal, as such management or accounting may relate to the Contractor's performance of this Contract; or
- 5.9.1.4 If a decree or order by a court having jurisdiction in the matter shall have been entered adjudging the Contractor as bankrupt or insolvent or approving as properly filed a petition seeking reorganization, readjustment, arrangement, composition or similar relief for the Contractor under the federal bankruptcy laws, or any other similar applicable federal or state law.

**5.10 Election of Remedies**

If any Event of Default hereunder shall have occurred and be continuing, the Town may elect to pursue any one or more of the following remedies, in any combination or sequence:

- 5.10.1 Take such action as it deems necessary, including, without limitation, reduction of payment or temporary withholding of payment;
- 5.10.2 Require the Contractor to pay Liquidated Damages in the amount of five hundred dollars (\$500), or one percent of the total compensation for the project on which it has contracted to work, whichever is less, per calendar day to the Town until the work is complete;

**SAMPLE**

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

- 5.10.3 Suspend work under the Contract; Require the Contractor to correct or cure such default to the satisfaction of the Town; and Board of Education.
- 5.10.4 Terminate this Contract for cause in accordance with Section 11 hereof.

The selection of any remedy shall not prevent or stop the Town from pursuing any other remedy and shall not constitute a waiver by the Town of any other right or remedy.

**5.11 Termination of Contract**

5.11.1 Termination

“Termination”, for purposes of this Contract, shall mean the cessation, upon the effective date of termination, of the following obligations only: The Contractor’s obligation to perform the services described in Section 1, Scope of Services, of this Contract, and the Town’s obligation, as described in Section 4, Compensation, of this Contract, to pay for such services.

5.11.2 Termination for Cause

Upon the occurrence of any Event of Default, as set forth in Section 10.1 hereof, the Town may terminate this Contract by giving five (5) days’ written notice thereof to the Contractor.

5.11.3 Termination for Program Change

In the event the on-call engineering program shall be terminated or significantly changed, the Town may terminate this Contract by giving ten (10) days’ written notice thereof to the Contractor.

5.11.4 Termination for Non-availability of Funds

In the event the Town shall not have funds available for this program, the Town may terminate this Contract by giving ten (10) days’ written notice thereof to the Contractor.

5.11.5 Termination for Convenience

The Town may terminate this Contract for convenience at any time, and for any reason, or for no reason, by giving ten (10) days’ prior written notice thereof to the Contractor.

5.11.6 Payment upon Termination

In the event this Contract is terminated as herein provided, the Town shall make full payment to the Contractor for all authorized services performed up to and including the date of termination.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

**5.12 Amendments**

This Contract may be amended by written instrument executed by the parties hereto, acting therein by their duly authorized representatives. The Contractor's duly authorized representative shall be \_\_\_\_\_, and the Town's duly authorize representative shall be the Managing Authority.

**5.13 Establishment and Maintenance of Records**

The Contractor agrees to establish and maintain fiscal control and accounting procedures that assure proper accounting for all funds paid by the Town to the Contractor under this Contract. The Contractor agrees that all records with respect to all matters covered by this Contract shall be maintained during the term of this Contract, including any renewal or extension, and for one full year following termination or expiration.

**5.14 Audits**

At any time during normal business hours, and as often as may be deemed necessary, the Contractor shall make available to the Town, for examination, all records with respect to all matters covered by this Contract.

**5.15 Reports and Information**

The Contractor shall furnish the Town with such information and reports concerning the progress and management of this project as may be required from time to time. The form of said reports shall be determined by the Town.

**5.16 Non-Assignability**

The Contractor shall not assign or transfer any interest in this Contract without prior written consent of the Town.

**5.17 Severability**

If any provision of this Contract is held invalid, the remainder of this Contract shall continue in full force and effect.

**5.18 Cumulative Remedies**

All rights and remedies of the Town hereunder shall be cumulative and the exercise or beginning of the exercise by the Town of any of its rights or remedies hereunder shall not preclude the Town from exercising any other right or remedy granted hereunder or permitted by law.

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

**5.19 Governing Law**

This Contract shall be governed by, and construed in accordance with, the laws of the State of Connecticut.

**5.20 Subcontractors and Subcontractors**

Portions of this work may be subcontracted, provided that:

- 5.20.1 The Town shall give prior approval to such subcontract in writing.
- 5.20.2 All of the terms, covenants, conditions and provisions of this Contract shall have been incorporated in such subcontract(s) and the subcontractor(s) and subcontractor(s) shall have agreed in writing to assume, perform and be bound by this Contract and all the terms, covenants, conditions and provisions hereof.
- 5.20.3 The Town shall not be liable for payment of any wages, materials, or other expenses of any subcontractors.

**5.21 Gender/Number/Title**

Words of any gender used in this Contract shall be held and construed to include any other gender, and words in the singular shall be held and construed to include the plural, unless the Contract requires otherwise. In the event of any discrepancy or conflict between the name and title of any person referred to in this Contract, the title shall prevail.

**5.22 Notices**

All notices, approvals, demands, requests, or other documents required or permitted under this Contract, other than routine communications necessary for the day-to-day operation of this contract, shall be deemed properly given if hand delivered or sent by United States mail, first class postage, to the following addresses:

As to the Town:

(The Managing Authority designated  
in Section 5 of this Contract)  
323 Route 87  
Columbia, CT 06237

As to the Contractor:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Request for Proposals (RFP)**  
**Emergency Generator Replacement for Horace W. Porter School**  
**Columbia, CT**  
**Solicitation Number 001-2020**

**SAMPLE**

**5.23 Non-Waiver**

Any failure by the Town or the Contractor to insist upon the strict performance by the other of any of the terms and provisions hereof shall not be a waiver, and each party hereto, notwithstanding any such failure, shall have the right thereafter to insist upon the strict performance by the other, of any and all of the terms and provisions of the Contract and neither party hereto shall be relieved of such obligation by reason of the failure of the other to comply with or otherwise enforce any of the provisions of this Contract.

**5.24 Delinquency in Obligations**

The Contractor hereby agrees that throughout the period of the Contract, all taxes, debts, contractual obligations, and audit responsibilities owed to the Town shall be and shall remain current.

**5.25 Ownership of Work Product**

All work produced under this Contract shall be the property of the Town. The Contractor shall turn over to the Town all original documents and other work products upon completion or demand.

**5.26 Entire Contract**

This Contract, and its exhibits attached hereto and referenced herein, contain the entire understanding between the parties hereto and supersedes any and all prior understandings, negotiations, and Contracts, whether written or oral, between them respecting the written subject matter.

**Request for Proposals (RFP)  
Emergency Generator Replacement for Horace W. Porter School  
Columbia, CT  
Solicitation Number 001-2020**

**SAMPLE**

IN WITNESS THEREOF, the TOWN OF COLUMBIA and the CONTRACTOR have executed this Contract on this \_\_\_\_\_ day of \_\_\_\_\_, 2020.

**TOWN OF COLUMBIA**

Reviewed:

\_\_\_\_\_  
By: Michael Sylvester  
Title: BOE, Facilities Manager

Approved:

\_\_\_\_\_  
By: Mark B. Walter  
Title: Town Administrator

Witness:

\_\_\_\_\_

**CONTRACTOR**

Approved:

\_\_\_\_\_  
Signature

Title: \_\_\_\_\_

Witness:

\_\_\_\_\_  
Signature

Title: \_\_\_\_\_