



L'Anse Creuse Public Schools
District-Wide UPS Replacement
Bid Package No. T5
Clinton Twp., Michigan

Project Manual

IDS Project No. 25126-1005 BP-T5

October 2, 2026
Bids

Project Manual

L'Anse Creuse Public Schools District-Wide UPS Replacement Bid Package No. T5 Clinton Twp., Michigan

INTEGRATED design SOLUTIONS

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IDS Project No. 25126-1005 BP-T5

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SECTION 00 1113 - ADVERTISEMENT FOR BIDS

DATE: September 14, 2026

PROJECT: L'Anse Creuse Public Schools
District-Wide UPS Replacement
Bid Package No. T5
Clinton Township, Michigan

OWNER: L'Anse Creuse Public Schools
24076 F. V. Pankow Blvd.
Clinton Township, MI 48036

**ENGINEERING/
TECHNOLOGY
DESIGNER:** Integrated Design Solutions, LLC
Architecture, Engineering, Interiors & Technology
1441 W. Long Lake, Suite 200
Troy, MI 48098
(248) 823-2100
(248) 823-2200 fax

BIDS RECEIVED: Until 2:00 PM local time on October 30, 2026 the Owner will receive sealed Bids for the work as set forth in the Bidding Documents at:

Attention: Mr. Brandon Streng
Director of Technology
L'Anse Creuse Public Schools
Harry L. Wheeler Community Center And Administrative Offices
24076 Frederick Pankow Blvd v,
Clinton Township, MI 48036

At which time and place all bids will be publicly opened and read aloud. A bid tabulation summary will be available.

The Board will not consider or accept a bid received after the date and time specified for bid submission.

The Bidding Documents will be on file on and after October 2, 2026 and may be examined at the following locations during regular business hours, Monday through Friday:

The offices of: Integrated Design Solutions, LLC, 1441 W. Long Lake, Suite 200, Troy, MI 48098, (248) 823-2100

The Engineering/Technology Designer will furnish electronic documents to the Bidders. The documents may be downloaded from the USAC-ERATE site via Form 470 for this project. Bidders are responsible to check the website from time to time to verify they have all addenda, requests for information and other documents related to the Bid.

The Bid must be accompanied by a sworn and notarized Familial Relationship Disclosure Statement. The Board of Education will not accept a Bid that does not include this sworn and notarized disclosure statement.

All Bids must include an Iran Sanctions Affidavit of Compliance, Criminal Background Affidavit, and Affidavit of Bidder.

Contractors are required to provide their State of Michigan Prevailing Wage Registration letter with their bid proposal. Failure to submit this documentation with the bid will result in the proposal being deemed non-responsive.

Each bid shall be accompanied by a certified check, cashier's check, money order or bid bond made payable to L'Anse Creuse Public Schools in an amount not less than five percent (5%) of the Base Bid as a proposal guarantee. Bid Bond shall be provided by a company licensed to do business in the State of Michigan.

Non-mandatory pre-bid conference will be scheduled for October 8th at 2:00PM via Teams ([UPS Replacement Teams Meeting](#)) Meeting ID: 249 424 832 486 617, Passcode: PV2ya7A9). Contractors wishing to walk the building(s) may contact the IDS representative, Lenny Napoli, at lnapoli@ids-michigan.com to schedule a walkthrough.

END OF ADVERTISEMENT FOR BIDS

SECTION 00 2113 - INSTRUCTIONS TO BIDDERS

1. DEFINITIONS

- A. Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Advertisement for Bids, Instruction to Bidders, the Bid Form and other bidding and contract forms. The proposed Contract Documents consist of the form of an Agreement between Owner and Contractor, Specifications, Drawings and Addenda issued prior to execution of the Contract.
- B. Addenda are written or graphic instruments issued by the Technology Designer prior to the execution of the Contract, which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.
- C. A Bidder is a person or entity who submits a Bid.
- D. A Bid is a complete and properly signed proposal to do the work for the sums stipulated therein submitted in accordance with the Bidding Documents.
- E. The Base Bid is the amount stated in the Bid for which the Bidder offers to perform the work as described in the Bidding Documents as the base, to which work may be added to or deleted from, for the amounts stated in the Alternates.
- F. An Alternate is an amount stated in the Bid Form to be added to or deducted from the amount of the Base Bid if the described Alternate is accepted.
- G. A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment or services or a portion of the work as described in the Bidding Documents.
- H. Project Manual consists of the Bidding Documents and is the means used to assemble all of the Bidding Documents.

2. SECURING BIDDING DOCUMENTS

- A. Bidding is by public advertisement and invitation.
- B. The Engineering/Technology Designer will furnish electronic documents to the Bidders. The documents may be downloaded from the USAC-ERATE site via Form 470 for this project. Bidders are responsible to check the website from time to time to verify they have all addenda, requests for information and other documents related to the Bid.
- C. Bidding Documents remain the property of the Technology Designer.

3. PREPARATION AND SUBMISSION OF BIDS

- A. Bids shall be submitted on forms bound in the Project Manual of the Bidding Documents.
- B. All blanks on the Bid Form must be filled in by typewriter or by hand in ink.
- C. Amounts shall be expressed in both words and figures. In case of a discrepancy the amount stated in words shall govern.
- D. Alterations by erasure or interlineations must be initialed by the Bidder.
- E. All Mandatory Alternates must be bid. If no change in the Base Bid is required, enter "No Change."

- F. Submit the Bid, along with the bid security and any other documents required to be submitted with the Bid, to the Owner, and deliver to the address given in the Advertisement for Bids on or before the day and hour set for receipt of the Bids.
1. Enclose each Bid in a sealed opaque envelope bearing the title of the work "BP-T5 DISTRICT-WIDE UPS REPLACEMENT", the name of the Bidder, and the date and hour of the Bid opening, with the notation "SEALED BID ENCLOSED".
 2. Do not change the wording of the Bid Form, and do not add words to, or delete words from the Bid Form.
 3. Unauthorized conditions, limitations, or provisions attached to the Bid will be cause for rejection of the Bid.
 4. Submit only duplicate signed copies of the Bid. Clearly distinguish the original bid from the duplicated copies of the bid.
 5. It is the sole responsibility of the Bidder to see that their bid is received on time.
 6. Telephonic, telegraphic, facsimile (fax), or e-mail Bids or telephonic, telegraphic, facsimile (fax) or e-mail modification of a Bid will not be considered.
 7. Bids received after the time fixed for receiving them will not be considered and will be returned to the Bidder unopened.
 8. Properly identified Bids received on time will be publicly opened and read aloud. A bid tabulation summary will be available.
 9. The "AFFIDAVIT OF BIDDER" and "AFFIDAVIT OF COMPLIANCE – IRAN ECONOMIC SANCTIONS ACT" found in the bid form must be completed.
- G. The Bidder in submitting a Bid represents that:
1. The Bidder has read and understands the Bidding Documents, including the Drawings, Specifications and other proposed Contract Documents.
 2. The Bid is made in compliance with the Bidding Documents.
 3. The Bidder has visited the site of the Work and become informed as to existing conditions and limitations under which the Work is to be performed and included in their Bid a sum to cover the cost necessary to perform the Work as set forth in the Bidding Documents. No allowance will be made to a Bidder because of a lack of such examination or knowledge.
 4. The Bid is based upon materials, equipment and systems required by the Bidding Documents without exception and without substitutions.
 5. The Bidder agrees that it will provide a "Turnkey Solution" to the Owner.

4. AFFIDAVIT OF BIDDER

- A. Each Bid shall be accompanied by the Affidavit of Bidder in compliance with MCL.380.1267. The Bid proposal must be accompanied by this sworn and notarized statement disclosing Familial Relationship that exists between the Bidder or any employee of the Bidder and any member of the Board of Education of the School District, or the Superintendent of the School District. The School District will not consider a Bid Proposal that does not include this sworn and notarized Affidavit.

5. AFFIDAVIT OF COMPLIANCE – IRAN ECONOMIC SANCTIONS ACT

- A. Each Bid shall be accompanied by the Affidavit of Compliance – Iran Economic Sanctions Act in compliance with Michigan Public Act No. 517 of 2012 and attach this information to the bid proposal. The Bid proposal must be accompanied by this sworn and notarized statement certifying that the Bidder is not an "Iran Linked Business", nor if awarded the Contract will become an "Iran Linked Business" within the meaning of Michigan Public Act 512 of 2012 at any time during the course of performing under the contract. The School District will not consider a Bid Proposal that does not include this sworn and notarized Affidavit.

6. BID SECURITY AND BONDS

- A. Each bid shall be accompanied by a certified check, cashier's check, money order or bid bond made payable to L'Anse Creuse Public Schools in an amount not less than five percent (5%) of the Base Bid as

a proposal guarantee. Bid Bond shall be provided by a company licensed to do business in the State of Michigan.

- B. The successful Bidder shall provide a Performance Bond and a Labor and Material Payment Bond, covering the faithful performance of the Contract and payment of all obligations arising there under, each in the amount of one hundred percent (100%) of the contract amount. Bonds shall be provided by a company licensed to do business in the State of Michigan. The cost of such bonds shall be included in the Bid.
- C. The Bidder shall deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to be commenced prior thereto in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this paragraph.
- D. All surety companies providing bonds shall be listed in the latest version of the Department of Treasury Circular 570 entitled "Companies Holding Certificates of Authority as Acceptable Sureties of Federal Bonds and as Acceptable Reinsuring Companies."
- E. All surety companies providing bonds shall have an A. M. Best rating of B+ or better and be authorized to do business in the state of Michigan.
- F. Should the Bidder refuse to enter into a Contract or fail to furnish such bonds, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty.
- G. The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until either the Contract has been executed and bonds have been furnished or the specified time has elapsed so that the Bid may be withdrawn or all Bids have been rejected.

7. SUBMITTALS – BID REQUIREMENTS

- A. Provide one (1) original Bid submission and the number of copies as required on the Bid Form. Provide hard copies of all submittal requirements with the original Bid submission. For all copies, provide hard copies of the Bid Form and Bill of Materials. All other submittal requirements may be provided as either hard copy or electronically. Electronic copies shall be provided as a CD, DVD, USB key or other storage method with each copy. Email is not an acceptable medium and may result in a rejection of the Bid submission for non-compliance.
- B. Provide a complete bill of materials depicting quantities, model numbers, unit and extended pricing, catalog cuts, operating characteristics, physical characteristics, and equipment configuration for all equipment, software, wiring, and miscellaneous appurtenances included in this bid.
- C. The information shall be assembled in three ring binders complete with Table of Contents. All pages shall have page numbers, which shall be included in the Table of Contents.
- D. The Table of Contents shall be as follows:
 - 1. Tab No. 1 Cover Letter.
 - 2. Tab No. 2 Bid Form.
 - 3. Tab No. 3 Voluntary Alternates.
 - 4. Tab No. 4 Names and Company Profiles for Prime Contractors, Major Subcontractors and Major Suppliers
 - 5. Tab No. 5 Organizational Chart/Schedule/Manpower
 - 6. Tab No. 6 Wiring and Equipment
 - 7. Tab No. 7 Maintenance Agreements and Service Agreements and Warranties
 - 8. Tab No. 8 Miscellaneous (Optional)

E. Description of Contents.

1. Tab No. 1, Cover Letter, shall include an executive overview of the project depicting the Bidder's complete understanding of the project.
2. Tab No. 2, Bid Form shall include a completed Bid as found in Section 00 4100, and the Bid Bond as a requirement to submit a qualified Bid.
3. Tab No. 3, Voluntary Alternates, in a section, which is optional and made available to permit all Bidders to submit alternates to the Bidding Documents. These Voluntary Alternates shall clearly define the intent of the alternate, cost impact to implement the alternates, and a description of the deviation in functions and features between the alternates and the base Bidding Documents. Include catalog cuts in this section for each alternate product required. The catalog cuts shall be keyed to the description of the alternate. Each alternate shall be independent of any alternate and shall be uniquely identified i.e. TAL -1 (Technology Alternate No. 1) TAL-2, TAL-3, etc.
4. Tab No. 4, List the names and company profiles for Prime Contractor, Major Subcontractors and Major Suppliers. In addition to the above information, describe each of the following:
 - a. The roles of the Prime Contractor, Subcontractors and Suppliers.
 - b. Description of corporate history for the Prime Contractor and planned Subcontractors, including dates of incorporation/founding, dates of any corporate mergers and/or acquisitions of Contractors and all present and former subsidiaries.
 - c. The number of years installing similar systems in facilities similar to the Owner's.
 - d. List of references that would be considered peers to the Owner utilizing similar systems.
 - e. Name of active projects, their sites and scope of work.
 - f. Provide recent customer references for similar work performed during the past twelve (12) months and provide documentation on installation staff training and certification.
 - g. Indicate whether Prime Contractor or any planned Subcontractor are currently in litigation over other projects or have been involved in litigation over other projects in the previous five (5) years.
5. Tab No. 5, Organizational Chart, shall depict the prime contractor, the subcontractors, major suppliers, trainers, project managers, name of project leader, executive staff of each firm. The organizational chart shall include the names of the individuals occupying those positions, telephone numbers and E-mail addresses of all individuals on the organizational chart.
 - a. Provide a detailed schedule, indicating specific dates that you would plan to be working within the building(s). This schedule shall include major milestones required to achieve the completion dates previously specified.
 - b. Provide copies of any required certifications for installing Engineers or Project Managers.
 - c. Specify total man hours included in the Bid to complete the project.
6. Tab No. 6, Wiring and equipment shall include the following information:
 - a. Description of system operation.
 - b. Complete bill of materials indicating quantities and take-offs for the products being provided. The bill of materials shall separate labor and materials cost on a building-by-building basis. Include Bill of Materials for any and all subcontractors.
 - c. Equipment model numbers.
 - d. Catalog cuts for all equipment being provided.
 - e. Manufacturer's product specifications.
 - f. A complete itemization of any software products with catalog cuts.
 - g. Software product specifications, if applicable.
7. Tab Nos. 7 and 8 are self-descriptive as to their intended content.

8. MODIFICATIONS AND WITHDRAWAL OF BIDS

- A. A Bidder may not modify, withdraw or cancel a Bid, for a period of ninety (90) days following the time and date designated for receipt of Bids, and by submitting a Bid each Bidder shall so agree.

- B. A Bidder may withdraw their Bid, either personally or by written request, at any time prior to the scheduled time for receipt of bids. A withdrawn Bid may be resubmitted up to the date and time designated for receipt of Bids.
- C. Prior to the time and date for receipt of Bids, a Bidder may modify a Bid by notice to the party receiving Bids, at the place designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder. Written notice and the signature of the Bidder shall be received, and date and time stamped by the receiving party on or before the date and time set for receipt of Bids. A change shall be worded as not to reveal the amount of the original Bid.

9. SPECIFICATIONS OF BID

- A. Whenever any material or equipment is specified by patent or proprietary name or by the name of the manufacturer, unless stated differently, such specification shall be considered as if followed by the words "or acceptable equal", whether or not such words appear. The Bidder may offer material or equipment with equal or better qualities and performance in substitution for those specified, which he considers would be in the Owner's interest to accept. Any such offers shall be made in writing to the Owner for consideration with the submission of the proposal and the Bidder shall include sufficient data (i.e. technical literature and/or detailed product brochures) which, together with any other data the Owner may require, will enable the Owner to assess the acceptability of the material or equipment. Such acceptance by the Owner shall not relieve the Bidder from full responsibility from the efficiency and quality and performance of the substitute material or equipment, in the same manner and degree as the material and equipment specified by name.

10. CONSIDERATION OF BIDS

- A. The Owner reserves the right to reject any or all Bids submitted either in whole or part, to reject a bid not accompanied by the required Bid security or by other data required by the Bidding Documents or to reject a Bid which is any way incomplete or irregular and to waive informality and irregularity in the Bids and in the Bidding and to award the contract to other than the low Bidder.
- B. The Owner reserves the right to accept alternates in any order or combination and to determine the low Bidder on the basis of the sum of the Base Bid and the alternates accepted and to make the awards that the Owner determines are in its best interest. The decision of the Owner is final and not subject to appeal.
- C. The Owner reserves the right to negotiate with any Bidder without rebidding the project in whole or in part.

11. INTERPRETATION OF CONTRACT DOCUMENTS PRIOR TO BIDDING

- A. Bidders shall study and compare the Bidding Documents with each other, shall examine the site and local conditions by appointment with the Owner and if in doubt as to the true meaning of any part of the Bidding Documents, or finds discrepancies, inconsistencies, ambiguities or errors in or omissions from any part of the Bidding Documents, the Bidder may submit to the Engineer/Technology Designer a written Request For Interpretation (RFI) thereof. Submit RFI's to Lenny Napoli, Integrated Design Solutions, LLC, 1441 W. Long Lake, Suite 200, Troy, Michigan 48098, (586) 846-7338, lnapoli@ids-michigan.com. The person submitting the request shall be responsible for its prompt delivery. The bidding schedule is as follows:

Bids Available:	October 2, 2026
Pre-Bid Conference:	Non-mandatory pre-bid conference will be scheduled for October 8th at 2:00PM via Teams (UPS Replacement Teams Meeting) Meeting ID: 249 424 832 486 617, Passcode: PV2ya7A9). Contractors wishing to walk the building(s) may contact the IDS representative, Lenny Napoli, at lnapoli@ids-michigan.com to schedule a walkthrough.
Deadline for RFI Submissions:	October 22, 2026; 12:00 PM
Deadline for RFI Responses:	October 23, 2026; 5:00 PM

Bids Due: October 30, 2026; 2:00 PM
Bid Opening: October 30, 2026; 2:01 PM

Post-Bid Interviews: November 4, 2026
Anticipated Board of Education Award: November 16, 2026

- B. Interpretation, correction or changes to the proposed Contract Documents will be made only by Addendum. Explanations, interpretations, corrections or changes of the Bidding Documents by any other method will not be binding.

12. ADDENDA/RESPONSES TO RFI'S

- A. Addenda and responses to RFI's will be posted to the website where Bidding documents are available as indicated on the Advertisement for Bids.
- B. Hard copies of Addenda will be made available for inspection wherever Bidding Documents are on file.
- C. Addenda will be issued no later than three (3) days prior to the date for receipt of Bids, except an Addendum withdrawing the request for Bids or one which postpones the date for receipt of Bids.
- D. Each Bidder shall ascertain prior to submitting his bid that he has received all Addenda issued and shall acknowledge their receipt on the Bid Form.
- E. Each Bidder shall be responsible for compliance with all issued Addenda.

13. UNIT PRICES

- A. Each Bidder must bid on all unit prices listed in the Bidding Documents that are applicable to its Base Bid. They will be fully considered in awarding the Contract.
- B. Bids are considered irregular and may be rejected if unit prices contained in the Bid are obviously unbalanced either in excess of, or below, reasonable cost analysis values.
- C. Any unit price which, in the sole opinion of the Owner, is unbalanced or excessive, may be rejected without affecting the validity of the Bid or other unit prices. An entire Bid may be rejected if, in the sole opinion of the Owner, rejection of individual unit prices materially affects the Bid.
- D. Unit prices shall be applicable to the additions to or deletions from the scope of work indicated in the Bidding Documents and may be utilized at any time prior to substantial completion, or as defined in the Bidding Documents, whichever is longer.
- E. Unit prices for deletions from the scope of work may be utilized at any time prior to installation of said unit through substantial completion, or as defined in the Bidding Documents, whichever is longer.

14. SPECIFICATIONS OF BID

- A. Material or equipment specified by manufacturer and/or part number is specified as a basis of design. Whenever any material or equipment is specified by patent or proprietary name or by the name of the manufacturer, unless stated differently, such specification shall be considered as if followed by the words "or Acceptable Equal", whether or not such words appear.
- B. Acceptable Equal shall be defined as a component, material or piece of equipment that is equal or superior in all aspects to the product specified as a basis of design. Any Acceptable Equal products included in your bid response shall be provided with the same warranty, service and support as the specified product and shall integrate with the rest of the system components with no additional changes to the rest of the system as specified. The proposed Acceptable Equal product shall not affect dimensional and functional clearances upon installation.

- C. Clearly delineate within your bid response any and all Acceptable Equal products that are being proposed. Include all drawings, cut sheets, performance and test data, samples and other information necessary for an evaluation of the product as an Acceptable Equal.
- D. The burden of proof of Acceptable Equal status is upon the Bidder. Failure to provide supporting data will result in the product being rejected. The Technology Designer's decision of approval or disapproval of a proposed Acceptable Equal shall be final.

15. SUBSTITUTIONS

- A. No substitutions to the specifications of the Bidding Documents will be considered prior to receipt of Bids, unless a written request for approval has been received by the Technology Designer at least ten (10) days prior to the date for receipt of Bids.
- B. Such request for substitutions shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, samples and other information necessary for an evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work shall be included.
- C. The burden of proof of the merit of the proposed substitution is upon the Bidder. The Technology Designer's decision of approval or disapproval of a proposed substitution shall be final.
- D. If the Technology Designer approves a proposed substitution prior to receipt of Bids, such approval will be set forth in an Addendum.
- E. The Bidder may offer material or equipment with equal or better qualities and performance via a voluntary alternate. Any such offers shall be made in writing in the space indicated on the Bid Form and shall include the cost to add or to deduct from the Base Bid amount. The Bidder shall include sufficient data (i.e. technical literature and/or detailed product brochures) to enable the Owner to assess the acceptability/desirability of the alternate material or equipment. Such acceptance by the Owner shall not relieve the Bidder from full responsibility from the efficiency and quality and performance of the substitute material or equipment, in the same manner and degree as the originally specified material and equipment.
- F. No substitutions will be considered after Contract award unless specifically provided for in the Contract Documents.

16. EXECUTION OF AGREEMENT

- A. The successful Bidder will be required to execute a Contract between Owner and Contractor. A draft copy is included. The bidding documents and Bidder's response shall be part of the contract. The contract documents will be available for review and signatures within seven (7) days of contract award. The Owner will issue an Owner's Purchase Order for the Owner's accounting purposes only. In the event of a conflict between the Contract and the Purchase Order, the contract shall take precedence.
- B. The Bidder to whom the Contract is awarded shall, within five (5) calendar days after notice of award and receipt of Agreement forms from the Owner, sign and deliver required copies to the Owner.
- C. At or prior to delivery of the signed Agreement, the Bidder to whom the Contract is awarded shall deliver to the Owner those Certificates of Insurance required by the Owner.
- D. The Owner shall approve Bonds and Certificates of Insurance and any required state or local permits before the successful Bidder may proceed with the Work. Failure or refusal to provide Bonds or Certificates of Insurance or required permits in a form satisfactory to the Owner shall subject the successful Bidder to loss of time from the allowable construction period equal to the time of delay in furnishing the required material.

- E. After award of the Contract and prior to the first payment request, the Bidder to whom the Contract is awarded shall deliver to the Owner a schedule of values broken down by labor and material on a building by building basis.

17. TAXES

- A. Installation services for the tangible personal property purchased by the Owner are not subject to sales taxation. Moreover, the Owner is exempt from taxation on all tangible personal property purchased by the Owner for its use and consumption; however this exemption would not apply to any materials required under the Bidding Documents that are deemed to be a component of a construction/improvement project to the Owner's facilities. The Owner will provide their Federal and State tax-exempt number(s) upon award.
- B. All prices submitted on the Bid Form shall be inclusive of all applicable taxes.

18. GENERAL INDEMNIFICATION

- A. Bidders shall indemnify, defend and hold harmless the Owner, its Board of Education and its Board members, in their official and individual capacities, administrators, employees, agents, architects, contractors, successors and assignees, from and against any and all costs, expenses, damages, and liabilities, including reasonable attorney's fees, arising out of the: (i) grossly negligent act or willful misconduct of the Contractor [Bidder], its officers, directors, employees, successors, assignees, contractors, subcontractors and agents; (ii) any breach of the terms of this Agreement [the Bidding Documents] by Contractor [Bidder]; or (iii) any breach of any representation or warranty by Contractor [Bidder] under this Agreement [the Bidding Documents]. Bidder's obligations provided in this Section are contingent upon the Owner providing Bidder with: i) written notice of the claim as soon as the Owner first becomes aware of the claim; ii) complete control of the defense of and the right to settle such claim; iii) all available information, assistance and cooperation to enable Bidder to defend or settle such claim, at Bidder's expense.

19. INTELLECTUAL PROPERTY INDEMNIFICATION

- A. Bidders shall indemnify, defend and hold harmless the Owner, its Board of Education and its Board members, in their official and individual capacities, administrators, employees, agents, contractors, successors and assignees, from and against any and all liabilities, damages, costs and expenses, including reasonable attorney fees, incurred in connection with any claim or suit brought against the Owner arising from any claims of violation of U. S. copyright, patent or trade secret by any third party resulting from Contractor's [Bidders] or the Owner's use of any equipment, software, technology, documentation and/or data development in connection with the Work, services and products described in the Bidding Documents; provided that Contractor [Bidder] is notified in writing within thirty (30) days from the date the Owner knew of such claim. The Owner retains the right to offset against any amounts owed Contractor [Bidder] hereunder or any such monies expended by the Owner in defending itself against such claims. Following written notification of an infringement claim, Contractor [Bidder] may, at its expense, and in its sole and absolute discretion (but without obligation to do so) either (i) procure for the Owner the right to continue to use the alleged infringing products or services; or (ii) replace, modify or provide substitute products or services to the Owner which are, in the Owner's sole opinion, of equal or greater quality to make it non-infringing; or (iii) refund to the Owner all monies paid to Contractor with respect to the infringing products or services, as well as all reasonable losses related to the infringing product(s) and all reasonable expenses related to the installation and conversion to the new product(s). Bidder's obligations provided in this Section are contingent upon the Owner providing Bidder with: i) written notice of the claim as soon as the Owner first becomes aware of the claim; ii) complete control of the defense of and the right to settle such claim; iii) all available information, assistance and cooperation to enable Bidder to defend or settle such claim, at Bidder's expense.

20. TURNKEY SOLUTION

- A. The Bidding Documents set forth the terms and conditions upon which the Bidder will provide a "turnkey" solution for the installation and operation of the included systems for use by the Owner. The Bidder agrees that it will provide a "turnkey solution" to the Owner and represents and warrants that the design,

operation and functionality of the included systems are in accordance with the Bidding Documents. All prices provided by the Bidder on the Bid Form must include all cables, connectors, equipment, etc., that are necessary to make the included systems fully operational for the intent and purpose stated in the Bidding Documents.

21. BID PREPARATION COSTS

- A. The Bidder is responsible for any and all costs incurred by the Bidder, or any agents of Bidder, in responding to this Request for Proposal.

22. TIME OF COMPLETION

- A. The Bidder, if awarded the Contract, agrees to complete the Work on or before the Contract Completion dates stated in the Bid Form.

23. PREVAILING WAGE REQUIREMENTS

- A. This project is subject to State of Michigan Prevailing Wage Rates.
- B. The LEO (Department of Labor and Economic Opportunity) in Michigan oversees prevailing wage laws. These laws ensure fair pay for skilled laborers and set wage standards that influence project costs.
- C. The wages and fringe benefits paid to construction mechanics (excluding those under the State Civil Service Commission) by the contractor and all subcontractors must not be less than the prevailing rates in the locality where the work is performed.
- D. Contractors and subcontractors must look up and apply the correct prevailing wage rates, based on the project's geographical location, from LEO's website prior to bidding: <https://www.michigan.gov/leo/bureaus-agencies/ber/wage-and-hour/prevailing-wage/prevailing-wages-by-county>.
- E. Contractors and subcontractors are responsible for ensuring their wages and fringe benefits meet or exceed the published totals.
- F. Contractors and subcontractors must be registered with LEO and provide proof of registration as part of their bid submission. Failure to include proof of registration with your bid response will result in your bid being rejected for non-compliance.
 - 1. Note: Contractors and subcontractors are responsible to keep their registration current on a yearly basis.
- G. Awarded contractors and subcontractors must submit certified payroll via LEO's "Online Certified Payroll Submission" process that matches the posted rates on LEO's website.
- H. Comply with all rules and regulations set by LEO: <https://www.michigan.gov/leo/bureaus-agencies/ber/wage-and-hour/prevailing-wage>.

24. EQUAL OPPORTUNITY

- A. The Bidder and the Bidder's Subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin. The Contractor shall take steps to ensure that applicants are employed, and that employees are treated during employment without regard to their race, religion, color, sex or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including

apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.

- B. The Bidder and the Bidder's Subcontractors shall, in all solicitations or advertisements for employees placed by them or on their behalf; state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex or national origin.

25. POST BID INFORMATION

- A. Bidders to whom Contract award is under consideration shall submit to the Technology Designer, upon request, a properly executed AIA Document A305, Contractor's Qualification Statement.

END OF SECTION 00 2113

SECTION 00 4100 - BID FORM

OWNER: L'Anse Creuse Public Schools
24076 Frederick Pankow Blvd v,
Clinton Township, MI 48036

PROJECT: L'Anse Creuse Public Schools
District-Wide UPS Replacement
Bid Package No. T5
Clinton Twp., Michigan

**ENGINEER/
TECHNOLOGY
DESIGNER:** Integrated Design Solutions, LLC
Architecture, Engineering, Interiors & Technology
1441 W. Long Lake Road, Suite 200
Troy, Michigan 48098
(248) 823-2100
(248) 823-2200 fax

NAME OF BIDDER: _____

ADDRESS: _____

TELEPHONE: _____

E-MAIL: _____

BID

Pursuant to and in compliance with the Advertisement for Bids, Instructions to Bidders and other documents relating thereto, the undersigned proposes and agrees to furnish equipment, materials, and labor and perform all work necessary to complete the L'Anse Creuse Public Schools Contract for the District-Wide UPS Replacement project in accordance with the Bidding Documents prepared by Integrated Design Solutions, LLC dated October 2, 2026, and agrees to accept payment as herein provided.

BASE BID

Lump sum bid for all Work specified and as shown on the Drawings to provide all equipment, labor, cabling, miscellaneous equipment, and connections for a turnkey solution (including a \$10,000 Owner allowance for Owner requested moves, adds, or changes):

_____ Dollars (\$_____).

NOTE: The amounts shall be shown in both words and figures. In case of a discrepancy, the amount shown in words shall govern.

BASE BID – BREAKDOWN

The award of the Contract shall be based on the Base Bid amount. The Contractor shall provide separate prices for accounting purposes only.

Sections 01 0000, 26 3353, 27 0015 \$_____

PLM Bond \$_____

Owner Allowance \$10,000.00 _____

Base Bid Total \$ _____

BASE BID - MANDATORY ALTERNATES

Mandatory Alternate No. 1: Provide pricing to furnish and install line-interactive UPS systems in lieu of the specified online double-conversion UPS systems. Alternate price shall include all equipment, accessories, installation, connections, testing, and startup required for a complete and operational system. Provide UPS systems of equal capacity and compatible with the connected equipment.

Add/Deduct _____
_____ Dollars (\$ _____).

Mandatory Alternate No. 2: Provide pricing to furnish and install a rack-mount power distribution unit (PDU), model #: RITTAL RKPW081915 or approved equal, for each ups beyond one (1) ups at locations where multiple ups units are provided. Include all labor, materials, accessories, and connections required for a complete and operational installation.

Add/Deduct _____
_____ Dollars (\$ _____).

BASE BID - VOLUNTARY ALTERNATES

Voluntary Alternate No. 1: _____

Add/Deduct _____
_____ Dollars(\$ _____).

Voluntary Alternate No. 2: _____

Add/Deduct _____
_____ Dollars(\$ _____).

Voluntary Alternate No. 3: _____

Add/Deduct _____
_____ Dollars(\$ _____).

BASE BID - UNIT PRICES

The Bidder shall include a complete bill of materials as part of their bid submission. Refer to specifications section 00 2113 paragraph "SUBMITTALS - BID REQUIREMENTS" for additional information. The bill of materials will be considered to be the unit price schedule for additions to or deletions from the scope of work from the date of award until the date of completion.

The bill of materials shall be formatted to include all charges for labor, materials and equipment, overhead and profit, general conditions, supervision, insurance, taxes and incidental expenses in such a way that unit pricing can be easily derived.

Indicate below acceptance of these unit pricing terms, acceptance with modifications as indicated or exception taken.

- ☐ Included bill of materials is considered the unit pricing schedule for the duration of the project.
- ☐ Exception taken. Included bill of materials is not valid for unit pricing for additions to or deletions from the scope of

work for the duration of the project.

- ☐ Included bill of materials is considered the unit pricing schedule for the duration of the project with the following modifications:

In addition, provide unit pricing for the following:

Said unit prices shall be applicable to the pricing of additions to, or deletions from, the Work indicated in the Contract Documents.

		ADD
UP-1	Provide and install one (1) UPS 1500 including network management card, one 10'-0" Category 6 cable, one 1'-0" patch cable, termination, labeling, testing and programming	\$ _____
UP-2	Provide and install one (1) UPS 2000 including network management card, one 10'-0" Category 6 cable, one 1'-0" patch cable, termination, labeling, testing and programming	\$ _____
UP-3	Provide and install one (1) UPS 3000 including network management card, one 10'-0" Category 6 cable, one 1'-0" patch cable, termination, labeling, testing and programming	\$ _____
UP-4	Provide and install one (1) battery pack for a UPS 1500.	\$ _____
UP-5	Provide and install one (1) battery pack for a UPS 2000.	\$ _____
UP-6	Provide and install one (1) battery pack for a UPS 3000.	\$ _____
UP-7	Provide, install, and program one (1) network card.	\$ _____
UP-8	Provide and install one (1) rack-mounted PDU for UPS-connected equipment, including all required accessories, mounting hardware, connections, and testing.	\$ _____

EXTENDED UNIT PRICES

The Bidder proposes extended unit prices in accordance with the following schedule. Said unit prices shall include all charges for labor, materials and equipment, overhead and profit, inflation/escalation, general conditions, supervision, insurance, applicable taxes and incidental expenses.

Said extended unit prices shall be applicable to the pricing of additional work beyond Substantial Completion. Said extended unit prices shall be valid from the date of substantial completion to one (1) year after the date of substantial completion.

For each unit price stated above, include with your bid proposal a pricing schedule, standard escalation percentages or other form of pricing the District may utilize for future work extending beyond Substantial Completion for the time period specified on a yearly basis.

BID SECURITY

Each Bid shall be accompanied by a Bid Security in the form of a certified check, cashier's check, or money order made payable to the Owner or a Bid Bond naming the Owner as the obligee in an amount not less than five percent (5%) of the Base Bid as a Bid guarantee. Bid Bonds shall be issued by a company licensed to do business in the State of Michigan.

ADDENDA

The undersigned acknowledges the receipt of the following addenda:

Addendum No. _____	Dated _____	Addendum No. _____	Dated _____
Addendum No. _____	Dated _____	Addendum No. _____	Dated _____
Addendum No. _____	Dated _____	Addendum No. _____	Dated _____

TIME OF COMPLETION

The undersigned agrees to substantially complete the project by: June 30, 2027.

Refer to the Appendix for specific building completion dates and acceptable working hours.

WITHDRAWAL OF BIDS

The undersigned agrees that its Bid shall not be withdrawn for a period of ninety (90) days after the date set for receipt of Bids.

NON-COLLUSION

The undersigned certifies that the Bid has not been prepared in collusion with any other bidder and that the prices, discounts, terms and conditions thereof have not been directly or indirectly communicated by or on behalf of the Bidder to any such person other than the recipient of such Bid, and will not be communicated to any such person prior to the official opening of said Bid. The undersigned fully understands that no premiums, rebates, or gratuities are permitted either with, prior to or after signing the Contract.

This certification may be treated as if it were a sworn statement made under oath, and is made subject to the provisions of 18 U. S. C., 1001, relating to the making of false statements.

SIGNATURE AND LEGAL STATUS OF BIDDER

Signed and sealed this _____ day of _____, 20_____.

(Individual, Partnership, Corporation)

State of Incorporation

Affix Corporate Seal

By:

(Authorized Signature of Bidder)

(Print or Type Name of Bidder)

Title

Business Address

E-mail

Instructions: Submit one (1) original, three (3) copies, and one (1) electronic copy to the Owner and retain one (1) copy for the Bidder's records. Clearly label each copy submitted as either "original" or "copy."

AFFIDAVIT OF BIDDER

The undersigned, the owner or authorized officer of _____ (the "Bidder"), pursuant to the familial disclosure requirement provided in the _____ (the "School District") advertisement for construction bids, hereby represent and warrant, except as provided below, that no familial relationships exist between the owner(s) or any employee of _____ and any member of the Board of Education of the School District or the Superintendent of the School District.

List any Familial Relationships:

BIDDER:

By: _____

Its: _____

STATE OF MICHIGAN)
)ss.
COUNTY OF _____)

This instrument was acknowledged before me on the ____ day of _____, 20____, by
_____.

_____, Notary Public

_____ County, Michigan

My Commission Expires: _____

Acting in the County of: _____

AFFIDAVIT OF COMPLIANCE – IRAN ECONOMIC SANCTIONS ACT

MICHIGAN PUBLIC ACT NO. 517 OF 2012

The undersigned, the owner or authorized officer of _____ (the "Bidder"), pursuant to the compliance certification requirement provided in the _____ (the "School District") Advertisement for Bids, hereby certifies, represents and warrants that the Bidder (including its officers, directors and employees) is not an "Iran Linked Business" within the meaning of the Iran Economic Sanctions Act, Michigan Public Act No. 517 of 2012 (the "Act"), and that in the event Bidder is awarded a Contract as a result of the aforementioned Advertisement for Bids, the Bidder will not become an "Iran Linked Business" at any time during the course of performing under the Contract.

The Bidder further acknowledges that any person who is found to have submitted a false certification is responsible for a civil penalty of not more than \$250,000.00 or 2 times the amount of the Contract or proposed Contract for which the false certification was made, whichever is greater, the cost of the School District's investigation, and reasonable attorney fees, in addition to the fine. Moreover, any person who submitted a false certification shall be ineligible to bid on an Advertisement for Bids for three (3) years from the date that it is determined that the person has submitted the false certification.

BIDDER:

Name of Bidder

By: _____

Its: _____

STATE OF MICHIGAN)
)ss.
COUNTY OF _____)

This instrument was acknowledged before me on the ____ day of _____, 20____, by
_____.

_____, Notary Public
_____ County, Michigan
My Commission Expires: _____
Acting in the County of: _____

CRIMINAL BACKGROUND AFFIDAVIT

The undersigned, the owner or authorized officer of the below-named Firm, pursuant to the criminal background compliance certification requirements of L'Anse Creuse Public Schools (the "School District") hereby represents and warrants that the Firm has performed and/or will perform sufficient criminal background checks, including at a minimum, an Internet Criminal History Tool ("ICHAT") check, for all of its owners, employees, agents, representatives, contractors and/or other personnel who will be on any School District premises to carry out the services contemplated by the Contract Documents. The Firm further hereby certifies that no owner, employee, agent, representative, contractor and/or other personnel of the Firm will be on any School District premises if they are a registered criminal sexual offender under the Sex Offenders Registration Act, Public Act 295 of 1994, or have been convicted of "Listed Offense" as defined under Section 722 of the Sex Offenders Registration Act, MCL 28.722.

The Firm further acknowledges that if it is found to have submitted a false certification or otherwise fails to comply with the requirements of this certification, the School District may immediately terminate the Contract.

FIRM:

Name of Firm

By: _____

Its: _____

STATE OF MICHIGAN)
)ss.
COUNTY OF _____)

This instrument was acknowledged before me on the ____ day of _____, 20____, by
_____.

_____, Notary Public

_____ County, Michigan

My Commission Expires: _____

Acting in the County of: _____

AFFIDAVIT OF COMPLIANCE – PREVAILING WAGE AND FRIDGE BENEFITS

MICHIGAN ACT NO. 10 OF 2023

Prevailing Wage Bid Certification

Project Name: _____

Owner / Contracting Agency: _____

Bidder: _____

Date: _____

Certification

Compliance: Comply with Michigan Prevailing Wage Requirements: The Bidder acknowledges and agrees to comply with all applicable prevailing wage requirements under Michigan Act 10 of 2023 and the Department of Labor and Economic Opportunity (LEO).

The wages and fringe benefits paid to construction mechanics (excluding those under the State Civil Service Commission) by the contractor and all subcontractors must not be less than the prevailing rates in the locality where the work is performed.

Payment of Required Wage & Fringe Rates: The Bidder certifies that all construction mechanics employed by the Bidder and any subcontractors will be paid not less than the prevailing wage and fringe benefit rates for their respective classifications and locality.

Posting of Prevailing Wage Rates: The Bidder agrees to ensure that a copy of the required prevailing wage rate schedule is posted in a conspicuous location on the jobsite at all times.

Recordkeeping Requirements: The Bidder certifies it will maintain and submit accurate payroll records via the LEO "Online Certified Payroll Submission" process showing the name, classification, wages, and fringe benefits paid and will make such records available for inspection upon request.

Subcontractor Compliance: The Bidder agrees to notify all subcontractors of the prevailing wage requirements prior to the start of work and to ensure subcontractor compliance throughout the project.

Bid Submittal: The Bidder acknowledges that a copy of the state project registration is attached to the bid submittal for the contractor and for each subcontractor that has been selected at the time the contractor submits the bid. If the copy of the state project registration letter is not part of the bid, the bid will be declared non-compliant and will not be read publicly.

Authorized Signature

Name: _____

Title: _____

Company: _____

Signature: _____

Date: _____

END OF BID FORM



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF LABOR AND ECONOMIC OPPORTUNITY
LANSING

SUSAN CORBIN
DIRECTOR

Date:

Subject: State Project Registration Confirmation

Dear

Thank you for submitting your State Project Registration with the Michigan Department of Labor and Economic Opportunity. We are pleased to confirm that your registration has been approved.

Your organization is now officially registered to perform work on State of Michigan projects, in compliance with Public Act 10 of 2023.

Registration Details:
Registration ID:

Next Steps:

Please include a copy of this registration confirmation with any State project bid submittals to verify your registration status.

If you have any questions, please do not hesitate to contact the Wage and Hour Division at:

517-284-7800
leo-whcertifiedpayroll@michigan.gov

Thank you for your commitment to compliance and public service.

Wage & Hour Division
Labor & Economic Opportunity

LEO is an equal opportunity employer/program.

Auxiliary aids, services and other reasonable accommodation are available, upon request, to individuals with disabilities.

WAGE AND HOUR DIVISION

P.O. Box 30476 • Lansing, Michigan 48909-7976

OVERNIGHT MAIL ADDRESS: 2407 N. GRAND RIVER • LANSING, MICHIGAN 48906

Toll Free: 1-855-4MI-WAGE (1-855-464-9243) • (517) 284-7800 • FAX (517) 763-0110

www.michigan.gov/wagehour

SECTION 00 7373 – SERVICE PROVIDER/VENDOR CRITERIA (E-RATE)

1.1 GENERAL

- A. L'Anse Creuse Public Schools is seeking funding from the Federal E-Rate Program and has filed an FCC Form 470 for this procurement, coincidental with the issuance of this RFP. Vendors responding to this RFP must demonstrate a full understanding and be in compliance with all Federal E-Rate program Requirements.
- B. Purchase and installation of products and services must be between July 1, 2026 and September 30, 2027.
- C. All bidders must adhere to the Lowest Corresponding Price ("LCP") guidelines as dictated by the Schools and Libraries Division.
- D. All bidders understand that the District may choose more than one provider for one type of service.

1.2 USAC E-RATE REGISTRATION

- A. To bid on this project, all vendors shall submit with its proposal a valid Form 498 ID (formerly "SPIN") and a valid Federal Communications Commission Registration Number ("FCRN"). Vendors have access to E-Rate regulations and policies via the E-Rate Administrator's Website: <http://www.usac.org/sli/>. Direct all questions regarding the USF E-Rate requirements in their RFP to the Universal Service Administration Company ("USAC"), Schools and Library Division ("SLD") at 888-203-8100.

1.3 USAC PARTICIPATION AND COOPERATION

- A. Vendors shall agree to participate in the USAC Schools and Library Federal E-Rate Program. Vendor shall agree to fully cooperate in all respects with the District, USAC and any agency or organization administering the E-Rate Program to ensure the District receives all of the E-Rate funding for which it has applied and is entitled in connection with the Vendor's services and/or products. The District expects that all vendors will be thoroughly familiar with and abide by any rules or regulations regarding the E-Rate Program.
- B. Vendors shall have the 2025 Service Provider Annual Certification Form 473 on file with USAC.

1.4 USAC E-RATE ELIGIBLE SERVICES

- A. The items requested within this RFP may or may not be USF eligible. All bid responses must clearly identify which services/materials are E-Rate eligible, partially eligible (% of eligibility) and not eligible. Please use the 2023 USF Eligible Services List located on the USAC website (<http://www.usac.org/sli/>). It is the vendors responsibility to check for updates and corrections prior to submitting their bid.
- B. Invoicing for E-Rate: All billing for services and equipment MUST occur on or after July 1, 2026 to comply with the E-Rate 2026-2027 year.
- C. Invoicing Procedures. Vendors shall itemize, price, and invoice all materials or services that are eligible and ineligible for E-rate funding. Vendor must include the following information on all invoices to the District for E-rate eligible equipment and/or services:
 - 1. Date of invoice.
 - 2. Dates of service.
 - 3. District Purchase Order or Contract number.
 - 4. Concise breakdown of amount(s) to be billed to USAC (discounted portion of eligible charges) and amount(s) to be billed to the District (non-discounted amount of eligible charges).

1.5 USAC E-RATE DISCOUNTED INVOICING AND REIMBURSEMENT PROCESSES

- A. Vendors shall, at the District's request, either (a) invoice the District only for the non-discounted amounts due on E-rate approved transactions and simultaneously invoice the Universal Service Administrative Company ("USAC") for the balance [Discounted Invoice Process] or (b) remit to the District within twenty days of receipt the reimbursement payments it receives from USAC or any other third party payer for the discounted portions of E-rate approved transactions involving the District [Reimbursement or "BEAR" Process].

1.6 USAC E-RATE INFORMATION AND DOCUMENTATION

- A. Selected Vendor shall provide to DPS staff and/or the District's E-rate consultant within reasonable period of time, all information and documentation that the Vendor has or that Vendor reasonably can acquire which the District may need to prepare its E-rate applications and/or to document transactions eligible for E-rate support. Vendor shall maintain all bids, quotes, records, correspondence, receipts, and other data relating to Vendor's services to the District in compliance with E-Rate retention rules.

1.7 CONTRACT TERM MODIFICATION.

- A. The District will reserve the right to extend or abbreviate the contract period if such extension or abbreviation is necessary to make the Contract term coincide with an E-Rate "program year" or coincide with a "service delivery deadline extension," as those terms are defined by the Federal Communications Commission ("FCC") or the Universal Service Administrative Company ("USAC").

END OF SECTION 00 7373

SECTION 01 0000 – GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Permits and Fees.
 - 2. Work Restrictions.
 - 3. Contract Modification Procedures.
 - 4. Payment Procedures.
 - 5. Project Management and Coordination.
 - 6. Project Progress Documentation.
 - 7. References.
 - 8. Temporary Facilities and Controls.
 - 9. Execution Requirements.
 - 10. Progress Cleaning.

1.3 PERMITS AND FEES

- A. Obtain all permits and licenses required. Contractor shall pay all permit fees.
- B. If required by the Bureau of Construction Codes, the Contractor shall be responsible for preparing and submitting any Drawings required for such permits, including retaining the services of a professional engineer licensed in the State of Michigan.
- C. If applicable, obtain all inspections and tests required. Upon completion of the work, obtain and send certificates of inspections and approvals to the Technology Designer/Engineer.
- D. Include time in your bid response to walk the inspector thru the buildings during inspections.

1.4 WORK RESTRICTIONS

- A. Use of Premises: Limit the use of the premises to work in areas indicated. Do not disturb portions of the site beyond areas in which the Work is indicated. Allow for Owner occupancy and use by the public.
- B. Use of Existing Building: Maintain the existing building in a weather-tight and secure condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period.
 - 1. The Contractor and each Subcontractor will be expected to have visited the site and appraise the existing situation and circumstances of operation.
 - 2. Consult with the Owner as to the availability of space for storage of materials and places of access to the work, etc. Materials and equipment must be placed to avoid interferences with the Owner's operations and shall be moved when so required.
 - 3. Comply with the Owner's requirements with regard to entrance, movement within and exit of all trucks, equipment, and personnel.
 - 4. The Owner reserves the right to perform construction work similar in nature to the work included under this Contract, in the same area concurrently with the Contractor, with his own forces, or with other Contractors, without conflict of any nature.

- C. Full Owner Occupancy: The Owner will occupy the site and existing building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner operations.
- D. Owner's Right to Place Equipment: The Owner reserves the right to occupy and to place and install equipment in completed areas of the building, prior to Substantial Completion, provided that such occupancy does not interfere with completion of the Work. Such placing of equipment and partial occupancy shall not constitute acceptance of the total Work.
- E. Owner-Furnished Equipment: The Owner will provide equipment as indicated. The Work includes providing support systems to receive Owner's equipment, and mechanical and electrical connections.
 - 1. The Owner will arrange and pay for delivery of Owner-furnished items in accordance with the Contractor's Construction Schedule, and will inspect deliveries for damage.
 - 2. If Owner-furnished items are damaged, defective or missing, the Owner will arrange for replacement. The Owner will also arrange for manufacturer's field services.
 - 3. The Contractor is responsible for designating the delivery dates of Owner-furnished items in the Contractor's Construction Schedule and for receiving, unloading and handling Owner-furnished items at the site. The Contractor is responsible for protecting Owner-furnished items from damage, including damage from exposure to the elements, and to repair or replace items damaged as a result of his operations.
 - 4. The Contractor is responsible for transporting certain pieces of equipment from the Owner's warehouse to the project site.
- F. Hazardous Materials: Hazardous materials may be present in construction to be selectively demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
 - 1. Hazardous material remediation, where required, shall be coordinated with the Owner for removal by others.
 - 2. Do not disturb hazardous materials or items suspected of containing hazardous materials.
 - 3. Make Owner aware of any remediation requirements within two (2) weeks of Contract award.
- G. Utility Tie-Ins: All utility connections, disconnections, tie-ins, shut-downs, and similar work to existing services which would interfere with Owner's operations, must be performed on premium or overtime (Owner's non-standard work hours) basis with all costs included in the proposal lump sum price. All required connections, disconnections, tie-ins and shut-downs of system shall be scheduled in advance, prearranged and approved by the Owner's Representative.
- H. No welding, flame cutting or other operations involving the use of flame, arcs or sparking devices will be allowed, unless prior approval is obtained from the Owner's Representative and all precautions are taken, including temporary fire resistant barriers and stand-by fire extinguishers.
- I. Damage to Other Work: The Contractor shall repair, replace, or touch-up all finished surfaces in the existing building which may be damaged as a result of his work or operations.
- J. Utilities or other services encountered or otherwise found shall be protected from any damage, unless or until they are abandoned. If the utilities or services are not abandoned, immediately repair any damage from work and operations of this Contract. Immediately repair any damage from the Work or operations and restore the utilities and services to an equal or better condition than that which existing prior to the damage or disruption.
- K. Enforce strict discipline and good order among the Contractor's employees and subcontractor's.
 - 1. Foul or abusive language or demeanor will not be tolerated.
 - 2. Contractor's employees and subcontractor's shall dress in a neat workmanlike manner.
 - 3. Smoking or vaping, or use of marijuana products of any kind is prohibited anywhere on school property.

4. Conversations with students by the Contractor's employees or subcontractors are prohibited.
 5. Possession, sale or consumption of alcoholic beverages on Owner's property is strictly prohibited.
 6. The manufacturing, distribution, dispensing, possession or use of unlawful drugs on Owner's property is strictly prohibited and may result in criminal prosecution.
- L. The Owner's facilities are considered a "weapon free school zone" as defined in Section 237a of the Michigan penal code, Act No. 328 of the Public Acts of 1931, being section 750.237a of the Michigan Compiled Laws and are subject to the following:
1. If you own a firearm and obtain a concealed weapons permit, you are required by Michigan law to know that there are "Pistol Free" zones in Michigan. It is illegal to carry a pistol on school property, into public or private day care centers, sports arenas, churches, hospitals, casinos, a dormitory, or classroom of a college or university, an entertainment facility that seats 2,500 people or more, and a dining room, lounge, or bar area of a premises licensed under the Liquor Control Commission (MCL 28.425.01).
- M. Use of Owner's Cafeteria: Contractor will not be allowed the use of the Owner's cafeteria.

1.5 CONTRACT MODIFICATION PROCEDURES

- A. Engineer/Technology Designer's Supplemental Instructions: After award of Contract, the Engineer/Technology Designer has the authority to order minor changes in the Work, not involving adjustments in the contract sum or extension of the contract time and not inconsistent with the intent of the contract Documents.
- B. Construction Change Directive (CCD): A written order prepared by the Engineer/Technology Designer and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract sum or contract time or both.
1. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the construct Sum and Contract Time being adjusted accordingly.
- C. Bulletins: After award of Contract, the Contractor as required shall quote changes in the work described in Bulletins or otherwise. Bulletins are a request by the Owner for pricing for work not included in the original contract. Bulletins are not authorization to proceed with the quoted work.
- D. Except as otherwise specifically mentioned, the general character of the work covered by these Bulletins shall be the same as originally specified for the project and all incidental items required in connection with the work hereinafter described shall be included even though not specifically mentioned. Where an item is mentioned with no additional specifications given, reference is to be made to the original specifications. All applicable parts of the original specifications shall apply.
- E. Submit detailed itemized quotations for each item of work described, stating fully the amounts for additions and deductions.
- F. Quotations should be received by the Technology Designer/Engineer within one (1) week of issuance of the Bulletin.
- G. Bulletins accepted by the Owner will be issued as a change order to the original contract. An executed change order is authorization for the Contractor to proceed with and bill for the quoted work as defined on the bulletin.

1.6 PAYMENT PROCEDURES

- A. Schedule of Values: Submit the Schedule of Values as a preliminary Application for Payment to the Technology Designer/Engineer at least 7 days before submittal of the initial Application for Payment.
1. Format and Content: Use AIA Documents G702 and G703.
 - a. Provide a breakdown of the Contract Sum building by building in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Break principal subcontract amounts down into several line items.
 - b. Round amounts off to the nearest whole dollar; the total shall equal the Contract Sum.
 - c. Where an Application for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed, provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
 - d. Margins of Cost: Show line items for indirect costs, and margins on actual costs, only to the extent that such items will be listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete including its total cost and proportionate share of general overhead and profit margin.
 - 1) At the Contractor's option, temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown as separate line items in the Schedule of Values or distributed as general overhead expense.
- B. Each Application for Payment shall be consistent with previous applications and payments as certified by the Technology Designer/Engineer and paid for by the Owner.
1. The Application for Payment at time of Substantial Completion and the final Application for Payment involve additional requirements.
- C. Payment Application Times: The date for each progress payment submission is the 10th day of each month. The period of construction Work covered by each Application for Payment is the period ending 10 days prior to the date for each progress payment and starting the day following the end of the preceding period.
- D. Application Preparation: Complete every entry on the form, including notarization and execution by person authorized to sign legal documents on behalf of the Contractor. Incomplete applications will be returned without action.
1. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.
- E. Transmittal: Submit 3 executed copies of each Application for Payment to the Technology Designer/Engineer. One copy shall be complete, including waivers of lien and similar attachments, when required.
1. Transmit each copy with a transmittal form listing attachments, and recording appropriate information related to the application in a manner acceptable to the Technology Designer/Engineer.
- F. Waivers of Mechanics Lien: With each Application for Payment, submit waivers of mechanics lien from every entity who may lawfully be entitled to file a mechanics lien arising out of the Contract, and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested, before deduction for retainage, on each item.
 2. Where an application shows completion of an item, submit final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.

- G. Michigan Sworn Statement of Contractor: With each Application for Payment, submit a Sworn Statement listing all subcontractors, suppliers, individuals and companies who have provided improvements, materials or labor toward the project, including an accounting of all monies due to those parties.
 - 1. For each party listed, show the name of the individual or company, the contracted price, amount previously paid, amount currently owed with this payment application and the balance to complete.
- H. Application for Payment at Substantial Completion: Actions and submittals that shall proceed or coincide with this application include:
 - 1. Warranties (guarantees) and maintenance agreements.
 - 2. Test/adjust/balance reports.
 - 3. Use, operation and maintenance instructions.
 - 4. Final cleaning.
 - 5. Application for reduction of retainage, and consent of surety.
 - 6. Punch list of incomplete Work, recognized as exceptions to Certificate of Substantial Completion.
- I. Final Payment Application: Actions and submittals that shall precede or coincide with this application include:
 - 1. Completion of Project closeout requirements.
 - 2. Completion of items specified for completion after Substantial Completion.
 - 3. Transmittal of required Project record documents to Technology Designer/Engineer and Owner.
 - 4. Proof that taxes, fees and similar obligations have been paid.
 - 5. Removal of surplus materials, rubbish and similar elements.
 - 6. Delivery of spare parts.

1.7 PROJECT MANAGEMENT AND COORDINATION

- A. Coordination: Coordinate construction operations included in various Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection and operation.
- B. Project Kick-off Meeting:
 - 1. Technology Designer/Engineer will schedule a virtual project kick-off meeting after execution of the Agreement and prior to commencement of construction to review responsibilities and personnel assignments.
 - 2. Attendees: The Owner, the Technology Designer/Engineer, the Contractor and its Project Manager, major subcontractors, manufacturers, suppliers and other concerned parties shall each be represented at the conference.
 - 3. Agenda: Discuss items of significance that could affect progress including such topics as:
 - a. Tentative construction schedule
 - b. Critical Work sequencing
 - c. Designation of responsible personnel
 - d. Procedures for processing field decisions and Change Orders
 - e. Procedures for processing Applications for Payment
 - f. Distribution of Contract Documents
 - g. Preparation of record documents
 - h. Use of the premises
 - i. Office, Work and storage areas
 - j. Equipment deliveries and priorities
 - k. Safety procedures
 - l. First aid
 - m. Security
 - n. Housekeeping
 - o. Working hours

C. Progress Meeting:

1. Progress meetings with the Contractor will be held by the Technology Designer/Engineer and Owner at regular intervals as directed. The Minutes of these meetings will be recorded by the Technology Designer/Engineer and copies sent to all interested parties. The dates of progress will be coordinated with preparation of payment request.
2. Agenda: Review and correct or approve minutes of the previous progress meeting. Include topics for discussion as appropriate to the current status of the Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction that is behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - b. Review including such items as:
 - 1) Interface requirements
 - 2) Time
 - 3) Sequences
 - 4) Equipment deliveries
 - 5) Access
 - 6) Site utilization
 - 7) Hours of Work
 - 8) Hazards and risks
 - 9) Housekeeping
 - 10) Quality and Work standards
 - 11) Change orders
 - 12) Documentation of information for payment requests

1.8 PROJECT PROGRESS DOCUMENTATION

A. Project Schedule: Submit a comprehensive, fully developed, construction/installation schedule.

1. Submit schedule within two (2) weeks after award of Contract. Base schedule on the Times of Completion specified for the Project.
2. Update project schedule monthly after project progress meetings, to reflect actual installation progress and activities.
3. Indicate each significant construction activity separately.
4. Time Frame: Extend schedule from date established for commencement of the Work to date of final completion.
5. Activities: Treat each building or separate area as a separate activity for each principal element of the Work. Comply with the following:
 - a. Procurement Activities: Include procurement activities for long lead items.
 - b. Start-Up and Testing Time: Include time for start-up and testing.
 - c. Substantial Completion: Indicate completion in advance of date of substantial completion; allow time for Technology Designer/Engineer inspection and punchlist.
6. Constraints: Include constraints and work restrictions.
 - a. Phasing: Arrange list of activities on schedule by phase.
 - b. Work by Owner: Indicate a separate activity for each portion of Work performed by Owner.
 - c. Work Restrictions: Show effect on the schedule of limitations of continued occupancies, uninterruptible services and use of premises restrictions.
 - d. Work Stages: Indicate important stages of installation for each major portion of the Work.

7. Milestones: Include milestones such as Notice to Proceed, Substantial Completion and Final Completion.

1.9 REFERENCES

A. Specifications & Drawings To be Cooperative:

1. These Specifications and accompanying Drawings are intended to describe and provide for finished work. They are intended to be cooperative and what is called for by either shall be as binding as if called for by both. The Drawings accompanying the Specifications are intended to show the general design and arrangement of the installation and in some cases are more or less diagrammatic. They are not intended to serve as shop drawings nor are they to be scaled for dimensions or exact locations of equipment.
2. It is the intent of the Drawings and Specifications to provide for a complete and satisfactory installation. The Contractor shall furnish Labor and/or materials neither shown nor specified but obviously necessary for the completion of the proper functioning of the systems.
3. Drawings pertaining to this specification shall be considered as a part of said specification and shall be a part of the bid documents.
4. The following sections specifically list the acceptable equipment types and items for this project. Where quantities are not noted, they may be obtained from the Drawings. In the event of a discrepancy between the Specifications and the Drawings, the greater quantity or better quality shall be furnished.

B. Specification Format and Content Explanation:

1. Specification Format: These Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's 49 Division format and MASTER FORMAT 2012 numbering system.
2. Words, which have well known technical or construction industry meanings are used in the Contract Documents in accordance with such, recognized meanings.
3. Abbreviated Language: In the interest of brevity, the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an" but the fact that a modifier or an article is absent from a statement and appears in another is not intended to affect the interpretation of either statement.
4. Trades: Use of titles such as "carpentry" is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

C. Definitions:

1. Contract Documents: Contract documents consist of the Agreement between Owner and Contractor, Conditions of the Contract, Drawings, Specifications, Addenda issued prior to execution of the Contract, and modifications issued after execution of the Contract. A modification is (1) a written amendment to the contract signed by both parties, (2) a change Order, (3) a construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect (Architect's supplemental Instructions). Contract Documents also includes bidding requirements or portions of Addenda relating to bidding requirements.
 - a. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the work by the contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

2. Indicated: Refers to graphic representations, notes or schedules on the Drawings, or other Paragraphs or Schedules in Specifications, and similar requirements in Contract Documents. Where terms such as "shown", "noted", "scheduled", and "specified" are used, it is to help locate the reference; no limitation on location is intended except as specifically noted.
 3. Directed: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the Architect", "requested by the Architect", and similar phrases. However, no implied meaning shall be interpreted to extend the Architect's responsibility into the Contractor's area of construction supervision.
 4. Approve: The term "approved", where used in conjunction with the Architect's action on the contractor's applications and requests, is limited to the duties and responsibilities of the Architect as stated in General and Supplementary Conditions. Such approval shall not release the Contractor from responsibility to fulfill Contract requirements unless otherwise provided in the Contract Documents.
 5. Regulation: The term "Regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work, whether lawfully imposed by authorities having jurisdiction or not.
 6. Furnish: The term "furnish" is used to mean "supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations."
 7. Install: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations."
 8. Provide: The term "provide" means "to furnish and install, complete and ready for the intended use."
 9. Installer: An "Installer" is the Contractor engaged by the Contractor, either as an employee, subcontractor, or sub-subcontractor for performance of a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
 10. Project Site: Is the space available to the Contractor for performance of construction activities, either exclusively or in conjunction with others performing other construction activities as part of the Project. The extent of the Project Site is shown on the Drawings and may or may not be identical with the description of the land upon which the Project is to be built.
 11. Testing Laboratories: A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.
- D. Standards of Industry: Reference to standards, codes, and recommendations shall be the latest edition of such publications adopted and published at date of bids. Work shall be installed according to the following industry standards when applicable:
1. UL - Underwriter's Laboratories, Inc.
 2. ASA - American Standard Association
 3. ASHRAE - American Society of Heating, Refrigeration and Air Conditioning Engineers
 4. ASME - American Society of Mechanical Engineers
 5. ASTM - American Society for Testing and Materials
 6. Any local state or national plumbing and building codes having jurisdiction.

1.10 TEMPORARY FACILITIES AND CONTROLS

- A. Temporary Toilets:
1. The Owner will allow the use of designated toilet facilities for use by all workers employed on the project. Keep the facilities clean and in sanitary condition at all times. In educational facilities, use of student toilet facilities is prohibited.

- B. Temporary Parking: Park in designated spaces only.
 - 1. Do not park vehicles on sidewalks or lawn areas surrounding the building unless written approval is received from the Owner.
 - 2. Loading and unloading shall be done only at designated areas. Coordinate with Owner.
 - a. No vehicles shall be left unattended for more than 30 minutes and no vehicle will be permitted to be left in the loading dock overnight.
- C. Contractor Employee Identification: All persons working on-site are required to have and wear an identification badge at all times. Badges will be provided by the Owner at no charge and must be returned to the Owner. Additional badges to replace lost badges will be charged at the Owner's standard rate/charge.

1.11 EXECUTION REQUIREMENT

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
- B. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
- C. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- D. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- E. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- F. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Engineer/Technology Designer.
- G. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

1.12 PROGRESS CLEANING

- A. Waste Material Removal and Cleaning: Remove and properly dispose of, on a daily basis all waste materials and debris resulting from the Work. The Owner's dumpsters and trash receptacles shall not be used. The Project and adjacent grounds shall be kept free of accumulations of rubbish.
 - 1. Construction debris shall not be stored overnight, nor shall it be left in common corridors. Keep debris confined to work areas only until such time as it is being removed.

2. No burning of waste materials will be permitted on the premises.
 3. Provide general "broom cleaning" of the site at the completion of the project.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 1. Remove liquid spills promptly.
 2. Do not wash waste materials down sewers or into waterways
 3. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 0000

SECTION 26 3353 – SOLID STATE UNINTERRUPTIBLE POWER SUPPLY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General provisions of the Bidding Documents and the Contract, including the Division 01 Specification Section, apply to work of this Section.

1.2 SUMMARY

- A. This Specification defines the electrical and mechanical characteristics and requirements for a continuous-duty, single-phase, solid-state, uninterruptible power supply (UPS). The UPS shall provide high-quality AC power for sensitive electronic equipment loads.

1.3 STANDARDS

- A. The UPS shall be designed in accordance with the applicable sections of the current revision of the following documents. Where a conflict arises between these documents and statements made herein, the statements in this Specification shall govern.
 - 1. CSA 22.2, No. 107.1
 - 2. FCC Part 15, Class A
 - 3. IEC 61000-3-2
 - 4. ISO 9001
 - 5. National Electrical Code (NFPA-70)
 - 6. ANSI C62.41, Category A, Level 3
 - 7. UL Standard 1778
 - 8. ISTA_1A

- B. The UPS shall be UL and cUL listed per UL Standard 1778.

1.4 SYSTEM DESCRIPTION

- A. UPS Types:
 - 1. UPS TYPE 1: 3000 VA rack-mounted UPS (3.0 kVA)
 - 2. UPS TYPE 2: 2000 VA rack-mounted UPS (2.0 kVA)
- B. Design Requirements – UPS Module:
 - 1. Voltage: Input/output voltage specifications of the UPS shall be as follows.
 - a. Rectifier Input: 120 volts, single-phase, 2 wire plus ground.
 - b. Output: 120 volts, single-phase, 2 wire plus ground.
 - 2. Output Load Capacity: Specified output load capacity of the UPS shall be 2.0 kVA or 3.0 kVA as indicated at 0.7 lagging power factor.
 - 3. Provide unit with web-based communications card to allow for tie-in to customer's network.
- C. Design Requirements – Battery:
 - 1. Battery Cells: Sealed, lead acid, valve regulated.
 - 2. Reserve Time: 6 minutes (minimum) at 2.0 kVA or 4 minutes (minimum) at 3.0 kVA.
 - 3. Recharge Time: to 95% capacity within ten (10) times discharge time.

D. Modes of Operation:

1. The UPS shall be designed to operate as an on-line, double-conversion, reverse-transfer system in the following modes:
 - a. Normal - The critical AC load is continuously supplied by the UPS inverter. The rectifier/charger derives power from an AC source and supplies DC power to the inverter while simultaneously float-charging the reserve battery.
 - b. Emergency - Upon failure of utility AC power, the critical AC load is supplied by the inverter, which obtains power from the battery. There shall be no interruption in power to the critical load upon failure or restoration of the utility AC source.
 - c. Recharge - Upon restoration of utility AC power after a utility AC power outage, the rectifier/charger shall automatically restart and assume the inverter and battery recharge loads.
 - d. Bypass - If the UPS must be taken out of service for maintenance or repair or if the inverter overload capacity is exceeded, the static transfer switch shall perform a reverse transfer of the load from the inverter to the bypass source with no interruption in power to the critical AC load. Bypass transfer operations shall be performed with asynchronous sources.
 - e. Eco-Mode - When this mode is enabled by service personnel the UPS will power the critical load through the UPS static bypass. If the bypass source becomes unqualified the UPS will switch to Normal mode of operation as defined above. Utility power is considered unqualified when either the input voltage varies more than +10% of rated voltage or the input frequency varies beyond +10% of 60Hz. Ten (10) minutes after the bypass source becomes qualified the UPS will automatically transfer to Eco-Mode of operation.

E. Performance Requirements:

1. AC Input to UPS:
 - a. Voltage Configuration to Standard Units: 120 volts, single-phase, 2 wire plus ground.
 - b. Voltage Range: +15%, -20% of nominal without derating
 - c. Frequency: 57-66 Hz
 - d. Power Factor:
 - 1) >0.99 at nominal input voltage and full-rated UPS output load
 - 2) >0.98 at nominal input voltage and half-rated UPS output load
 - e. Inrush Current: UPS inrush current not to exceed 1.5 times rated input current. Maintenance bypass and distribution cabinet inrush current not to exceed 8 times rated input current.
 - f. Current Limit: 140% of nominal AC input current maximum
 - g. Current Distortion: <3% reflected THD maximum at full load
 - h. Surge Protection: Sustains input surges without damage per criteria listed in IEC 1000-4-5
2. AC Output, UPS Inverter
 - a. Voltage Configuration: three-phase, 3-wire plus ground
 - b. Voltage Regulation:
 - 1) $\pm 1\%$ three-phase RMS average for a balanced three-phase load for the combined variation effects of input voltage, connected load, battery voltage, ambient temperature and load power factor
 - 2) $\pm 2\%$ three-phase RMS average for a 100% unbalanced load for the combined variation effects of input voltage, connected load, battery voltage, ambient temperature and load power factor
 - c. Frequency:
 - d. Nominal frequency
 - 1) $\pm 0.05\%$ for single unit
 - 2) $\pm 0.25\%$ for paralleled units
 - e. Frequency Slew Rate:
 - 1) Selectable from 0.1Hz/sec to 3.0Hz/sec maximum for single unit
 - 2) Fixed maximum of 0.2Hz/sec for paralleled units
 - f. Phase Displacement:
 - 1) ± 0.5 degree for balanced load

- 2) ± 1.0 degrees for 100% unbalanced load
- g. Bypass Line Sync Range:
 - 1) ± 2.0 Hz, field-selectable ± 0.5 to 5.0 Hz
- h. Voltage Distortion:
 - 1) 1% total harmonic distortion (THD) for linear loads
 - 2) $< 5\%$ THD for 100% nonlinear loads (3:1 crest factor) without kVA/kW derating
- i. Load Power Factor Range: 0.7 lagging to 1.0 leading without derating
- j. Output Power Rating: Rated kVA at 0.9 lagging power factor
- k. Overload Capability:
 - 1) 110% for 1 hour
 - 2) 125% for 10 minutes
 - 3) 150% for 1 minute
- l. Voltage Transient Response:
 - 1) 100% load step: $\pm 5.0\%$
 - 2) Loss or return of AC input power: $\pm 1.0\%$
- m. Transient Recovery Time: to within 2% of output voltage within one cycle
- n. Voltage Unbalance: 100% unbalanced load, $\pm 2\%$

1.5 ENVIRONMENTAL CONDITIONS

- A. The UPS shall be able to withstand the following environmental conditions without damage or degradation of operating characteristics:
 - 1. Operating Ambient Temperature
 - a. UPS Module: 32°F to 104°F (0°C to 40°C)
 - b. Battery: 77°F $\pm 9^\circ$ F (25°C $\pm 5^\circ$ C)
 - 2. Storage/Transport Ambient Temperature
 - a. UPS Module: -13°F to 158°F (-25°C to 70°C)
 - b. Battery: -4°F to 92°F (-20°C to 33°C)
 - 3. Relative Humidity
 - a. 0 to 95%, non-condensing
 - 4. Altitude
 - a. Operating: to 6,562 ft. (2000m) above mean sea level without derating. Linearly derated from 100% load at 6,562 ft. (2000m) to 88% load at 9,843 ft. (3000m).
 - b. Storage/Transport: to 40,000 ft. (12,200m) above mean sea level.
 - 5. Audible Noise
 - a. Less than 68 dB for 150 kVA

1.6 SUBMITTALS

- A. Proposal Submittals
 - 1. Submittals with the proposal shall include:
 - a. System configuration with single-line diagrams
 - b. Functional relationship of equipment including weights, dimensions and heat dissipation
 - c. Descriptions of equipment to be furnished, including deviations from these specifications
 - d. Size and weight of shipping units to be handled by installing contractor
 - e. Detailed layouts of customer power and control connections
 - f. Detailed installation drawings including all terminal locations
- B. UPS Delivery Submittals
 - 1. Submittals upon UPS delivery shall include a complete set of submittal drawings and one (1) set of instruction manuals that shall include a functional description of the equipment with block diagrams, safety precautions, instructions, step-by-step operating procedures and routine maintenance guidelines, including illustrations.

1.7 SPARE PARTS

- A. Provide the following spare parts for the UPS systems furnished under this section:
 - 1. One (1) UPS 3000 (3.0 kVA)
 - 2. Two (2) UPS 2000 (2.0 kVA)

3. One (1) Network Card

1.8 WARRANTY

- A. Refer to Technology General Requirements 27 0015 1.7 WARRANTY.

1.9 QUALITY ASSURANCE

- A. Manufacturer Qualifications
 1. A minimum of 20 years' experience in the design, manufacture and testing of solid-state UPS systems is required. The system shall be designed and manufactured according to world-class quality standards. The manufacturer shall be ISO 9001:2000 certified.
- B. Factory Testing
 1. Before shipment, the manufacturer shall fully and completely test the system to assure compliance with the specification.

PART 2 - PRODUCTS

2.1 FABRICATION

- A. Manufacturers:
 1. Liebert (rack mountable)
 2. APC Smart UPS RT (rack mountable)
 3. Cyberpower (rack mountable)
 4. Engineer approved equal
- B. Materials
 1. All materials of the UPS shall be new, of current manufacture and high grade and shall not have been in prior service except as required during factory testing. All active electronic devices shall be solid-state. All power semi-conductors shall be sealed. Control logic and fuses shall be physically isolated from power train components to ensure operator safety and protection from heat. All electronic components shall be accessible from the front without removing sub-assemblies for service access.
- C. Wiring
 1. Wiring practices, materials and coding shall be in accordance with the requirements of the National Electrical Code, OSHA and applicable local codes and standards. All bolted connections of busbars, lugs and cables shall be in accordance with requirements of the National Electrical Code and other applicable standards. All electrical power connections shall be torqued to the required value and marked with a visual indicator.
 2. Provisions shall be made in the cabinets to permit installation of input, output and external control cabling, using raceway or conduit. Provision shall be made for top and bottom access to input, output, bypass and DC connections. In conformance with NEC, connection cabinets shall provide for adequate wire bend radius. All copper busbars for customer power connections shall be tin plated for connection integrity.
- D. Construction and Mounting
 1. The UPS shall be in NEMA Type 1 enclosures, designed for floor mounting. The UPS shall be structurally adequate and have provisions for hoisting, jacking and forklift handling.
- E. Cooling
 1. Cooling of the UPS shall be by forced air using a redundant fan configuration. Fan power shall be provided by the UPS.
 2. The thermal design, along with all thermal and ambient sensors, shall be coordinated with the protective devices before excessive component or internal cabinet temperatures are exceeded. Air filters shall be located at the point of air inlet and be changeable.

- F. Circuit Breakers
 - 1. All circuit breakers shall be 100% rated.

2.2 COMPONENTS

- A. Rectifier/Charger
 - 1. General
 - a. The term rectifier/charger shall denote the solid-state equipment and controls necessary to convert AC to regulated DC for input to the inverter and for charging the battery.
 - 2. AC Input Current Limiting
 - a. The rectifier/charger unit shall be provided with AC input current limiting whereby the maximum input current shall be limited to 140% of the full input current rating. Input current limit will be adjustable by service personnel to allow the UPS to be used with undersized feeder breakers.
 - 3. DC Filter
 - a. The rectifier/charger shall have an output filter to minimize ripple current into the battery. The AC ripple voltage of the rectifier DC output shall not exceed 1% RMS of the float voltage. The filter shall be adequate to ensure that the DC output of the rectifier/charger will meet the input requirements of the inverter without the battery connected.
 - 4. Automatic Rectifier Restart
 - a. Upon restoration of utility AC power, after a utility AC power outage and prior to a UPS automatic end-of-discharge shutdown, the rectifier/charger shall automatically restart and assume the inverter and battery recharge loads.
 - 5. Battery Recharge
 - a. In addition to supplying power for the inverter load, the rectifier/charger shall be capable of producing battery charging current sufficient to replace 95% of the battery discharge power within ten (10) times the discharge time. After the battery is recharged, the rectifier/charger shall maintain the battery at full charge until the next emergency operation.
 - 6. Overvoltage Protection
 - a. There shall be DC overvoltage protection so that if the DC voltage rises to the preset limit, the UPS will shut down automatically and initiate an uninterrupted load transfer to the static bypass line.
- B. Inverter
 - 1. General
 - a. The term inverter shall denote the equipment and controls to convert DC from the rectifier/charger or battery to precise AC to power the load. The inverter shall be solid-state, capable of providing rated output power, and for increased performance the inverter shall be a pulse-width-modulated design and utilize insulated gate bipolar transistors (IGBTs).
 - 2. Overload Capability
 - a. The inverter shall be capable of supplying current and voltage for overloads exceeding 100%. The inverter is to provide 150% of full load for 1 minute, 125% of full load for 10 minutes and 110% of full load for 1 hour. A status indicator and audible alarm shall indicate overload operation. The UPS shall transfer the load to bypass when overload capacity is exceeded.
 - 3. Fault Clearing and Current Limit
 - a. The inverter shall be capable of supplying an overload current of 150% of its full-load rating for one minute. For greater currents or longer time duration, the inverter shall have electronic current-limiting protection to prevent damage to components. The critical load will be transferred to the static bypass automatically and uninterrupted. The inverter shall be self-protecting against any magnitude of connected output overload. Inverter control logic shall sense and disconnect the inverter from the critical AC load without the requirement to clear protective fuses.
 - 4. Step Load Response
 - a. Voltage Distortion
 - 1) Total harmonic distortion in the output voltage will not exceed 1% for 0% to 100% linear loads.
 - 2) Total harmonic distortion in the output voltage will not exceed 4% for 0% to 100% non-linear loads.

- 3) Total harmonic distortion in the output voltage will not exceed 5% for 0% to 100% non-linear, unbalanced loads.
 - b. Phase Balance
 - 1) Electronic controls shall be provided to regulate each phase so that an unbalanced loading will not cause the output voltage to go outside the specified voltage unbalance or phase displacement. With 100% load on one phase (and 0% load on the other two phases) or 100% load on two phases (and 0% load on the other phase), the voltage balance is to be within 2% and the phase displacement is to be 120 degrees within ± 1.5 degrees.
 - c. Inverter Shutdown
 - 1) For rapid removal of the inverter from the critical load, the inverter control electronics shall instantaneously turn off the inverter transistors. Simultaneously, the static transfer switch shall be turned on to maintain continuous power to the critical load.
 - d. Inverter DC Protection
 - 1) The inverter shall be protected by the following disconnect levels:
 - a) DC Overvoltage Shutdown
 - b) DC Undervoltage Warning (Low Battery Reserve)—pre-warning time is adjustable
 - c) DC Undervoltage Shutdown (End of Discharge)
 - e. Output Frequency
 - 1) The output frequency of the inverter shall be controlled by a high-speed DSP capable of holding the inverter output frequency to within $\pm 0.05\%$ during steady state and transient conditions. Total deviation from the rated frequency, including short time fluctuations and drift, shall not exceed 0.05%.
- C. Display and Controls
 - 1. Monitoring and Control
 - a. The UPS shall be provided with a microprocessor-based unit status display and controls section designed for convenient and reliable user operation. A graphical liquid crystal display (LCD) shall be used to show a single-line diagram of the UPS and shall be provided as part of the monitoring and controls sections of the UPS. All operator controls and monitors shall be located on the front of the UPS cabinet. Monitoring functions such as metering, status and alarms shall be displayed on the graphical LCD. Additional features of the monitoring system shall include:
 - 1) Menu-driven display with pushbutton navigation
 - 2) Real-time clock (time and date)
 - 3) Alarm history with time and date stamp
 - 4) Memory with battery backup
 - 5) Web-based communication card to allow tie-in to customer's monitoring system
 - 2. Metering
 - a. The following parameters shall be displayed:
 - 1) Input AC voltage line-to-line
 - 2) Input AC current for each phase
 - 3) Input frequency
 - 4) Battery voltage
 - 5) Battery charge/discharge current
 - 6) Output AC voltage line-to-line
 - 7) Output AC current for each phase
 - 8) Output frequency
 - 9) Apparent power
 - 10) Active power
 - 11) Battery time left during battery operation
 - 3. Selectable Input Contacts
 - a. The UPS shall have these available selectable input contacts:
 - 1) On Generator
 - 2) Fast Power Off
 - 3) MBB Auxiliary Contacts
 - 4) Start Battery Test
 - 5) Fault Acknowledge
 - 6) Bypass and Inverter Off

- 7) Stop Battery Test
 4. Alarm Messages
 - a. The following alarm messages shall be displayed:
 - 1) Mains Voltage Abnormal
 - 2) Mains Undervoltage
 - 3) Mains Freq. Abnormal
 - 4) Charger Fault
 - 5) Battery Reversed
 - 6) No Battery
 - 7) Control Power 1 Fail
 - 8) Parallel Comm. Fail
 - 9) Bypass Unable To Track
 - 10) Bypass Abnormal
 - 11) Inverter Asynchronous
 - 12) Fan Fault
 - 13) Control Power 2 Fail
 - 14) Unit Over Load
 - 15) System Over Load
 - 16) Bypass Phase Reversed
 - 17) Transfer Time-Out
 - 18) Load Sharing Fault
 - 19) Parallel Connect Fault
 - 20) Bypass Over Current
 - 21) Output Ground Fault
 5. Status Messages
 - a. The following UPS status messages shall be displayed:
 - 1) Rectifier (Off / Soft Start / Main Input On / Battery Input On)
 - 2) Input Supply (Normal Mode / Battery Mode / All Off)
 - 3) Battery Self-Test (True / False)
 - 4) Input Disconnect (Open / Closed)
 - 5) EPO (True / False)
 - 6) Charger (On / Off)
 - 7) Output Disconnect (Open / Closed)
 - 8) Maint. Disconnect (Open / Closed)
 - 9) Bypass Disconnect (Open / Closed)
 - 10) Inverter (Off / Soft Start / On)
 - 11) Bypass (Normal / Unable To Trace / Abnormal)
 - 12) Output Supply (All Off / Bypass Mode / Inverter Mode / Output Disable)
 - 13) Inverter On (Enable / Disable)
 6. Controls
 - a. UPS startup, shutdown and maintenance bypass operations shall be accomplished through pushbutton controls on the front panel. Menu-driven user prompts shall be provided to guide the operator through system operation without the use of additional manuals. Pushbuttons shall be provided to display the status of the UPS and to test and reset visual and audible alarms. A mimic screen shall be available on the LCD to depict a single-line diagram of the UPS with switch positions and power flow.
 7. On-Line Battery Test
 - a. The UPS shall be provided with a menu-driven On-Line Battery Test feature. The test shall ensure the capability of the battery to supply power to the inverter while the load is supplied power in the normal mode.
- D. Static Transfer Switch
 1. General
 - a. A static transfer switch and bypass circuit shall be provided as an integral part of the UPS. The static switch shall be a naturally commutated high-speed static (SCR-type) device rated to conduct full load current continuously. The switch shall have an overload rating to clear a 20-ampere load branch circuit breaker.
 - b. The static transfer switch control logic shall contain an automatic transfer control circuit that senses the status of the inverter logic signals and operating and alarm conditions. This control circuit shall provide an uninterrupted transfer of the load to an alternate bypass

- source without exceeding the transient limits specified herein, when an overload or malfunction occurs within the UPS or to bypass the UPS for maintenance.
2. Uninterrupted Transfer
 - a. The transfer control logic shall automatically turn on the static transfer switch, transferring the critical AC load to the bypass source, after the transfer logic senses any of the following conditions:
 - 1) Inverter overload capacity exceeded
 - 2) Critical AC load overvoltage or undervoltage
 - 3) UPS fault condition
 - b. The transfer control logic shall inhibit an automatic transfer of the critical load to the bypass source if any of the following conditions are present:
 - 1) Bypass frequency out of limits
 - 2) Bypass out-of-synchronization range with inverter output
 3. Uninterrupted Retransfer
 - a. Retransfer of the critical AC load from the bypass source to the inverter output shall be automatically initiated unless inhibited by manual control. The transfer control logic shall inhibit an automatic retransfer of the critical load to the inverter if one of the following conditions exists:
 - 1) Bypass out of synchronization range with inverter output
 - 2) Inverter/bypass voltage difference exceeding preset limits
 - 3) Overload condition exists in excess of inverter full load rating
 - 4) UPS fault condition present
- E. Maintenance Bypass Cabinet
1. General
 - a. A manually operated maintenance bypass switch shall be incorporated into the UPS cabinet to directly connect the critical load to the bypass AC input power source, bypassing the rectifier/charger, inverter and static transfer switch.
- F. Battery Cabinet
1. The battery cabinet shall include ten (10) year design life, valve-regulated, lead-acid battery cells housed in a separate cabinet that matches the UPS cabinet styling to form an integral system lineup. All battery cell inter-connects shall utilize bolted connections, and all batteries shall include copper, inserted terminal posts allowing connector torque of 110 in-lb (12.4 Nm). Battery cells shall be mounted on slide-out trays for ease of maintenance. A battery disconnect circuit breaker shall be included for isolation of the battery pack from the UPS module. Casters and leveling feet shall also be provided with the battery cabinet for ease of installation. Provide an interconnecting cable kit for connection between the battery cabinet & UPS cabinet, precut and pre-lugged.
- G. Output Distribution:
1. Output distribution shall be integral to the power outlet located behind the racks (power requirements by others).
- | Model | Power Cord Requirements |
|-------|------------------------------|
| 1500 | NEMA 5-15P |
| 2000 | NEMA L5-20P w/T-slot adaptor |
| 3000 | NEMA L5-30P |
- H. Battery Monitoring: Provide integral battery monitoring system.
- I. Accessories:
1. Network Management Card: Shall be provided and shall allow one or more network management systems to monitor and manage the UPS in TCP/IP network environments. Provide a 10'-0" black Category 6 UTP cable from the UPS Network Management Card to the nearest network rack patch panel with spare capacity. Terminate the Category 6 cable at the rear of a Category 6 keystone insert and terminate the opposite end with a Category 6 black RJ45 keystone jack. Provide an one foot (1'-0") CAT6A, slim, stranded 28-AWG UTP, 8P8C ("RJ45") modular plug UTP (SLIM black)

patch cord from the front of the patch panel jack to the nearest network switch with available capacity. Coordinate exact patch panel and switch port with the Owner prior to connection.

2. Contractor shall verify network connectivity and communication between each UPS network management card and the District's UPS management software prior to project completion.
 3. Provide wall mount and/or tower mount and associated hardware for locations where UPS cannot be rack mounted due to space constraints either from available rack space or physical space due to the size of the UPS's.
 4. Unattended Shutdown: The UPS, in conjunction with a network management card, shall be capable of shutting down one or more operating systems during the time when the UPS is on battery mode.
- J. Contractor shall provide and apply a mechanically produced label for all equipment (coordinate with District).

2.3 SOFTWARE

- A. Contractor shall provide 5-year Software to monitor and manage the UPS equipment.
1. Provide and install on Owner's PC and configure a District-wide UPS management software capable of the following features:
 - a. Monitors power consumption at the load segment level
 - b. Support redundant UPS configuration
 - c. Performs mass configurations on alarms, alert notifications and shutdown parameters
 - d. Mass update of network card firmware

PART 3 - EXECUTION

3.1 FIELD QUALITY CONTROL

- A. The following inspections and test procedures shall be performed by factory-trained field service personnel during the UPS startup.
1. Visual Inspection:
 - a. Inspect equipment for signs of damage
 - b. Verify installation per manufacturer's instructions
 - c. Inspect battery modules
 2. Mechanical Inspection:
 - a. Check all UPS and external service bypass panel internal power wiring connections
 - b. Check all UPS and external service bypass panel terminal screws, nut and/or spade lugs for tightness
 3. Electrical Inspection:
 - a. Verify correct input and bypass voltage
 - b. Verify correct UPS control wiring and terminations
 - c. Verify voltage of all battery modules

3.2 UPS TRAINING

- A. Refer to Technology General Requirements 27 0015 1.8 TRAINING/SUPPORT.

3.3 MANUFACTURER'S FIELD SERVICE

- A. Refer to Technology General Requirements 27 0015 1.9 MANUFACTURER'S FIELD SERVICE.

3.4 DEMOLITION

- A. This Contractor shall completely remove all legacy UPS's identified for demolition (refer to rack elevations for demolition requirements), including all associated patch cables and power cords.
- B. All equipment being removed shall be documented and shall have labels and asset tags removed and their configuration reset to factory default prior to disposal.
- C. Existing equipment removed, not reused and not specifically indicated to be turned over to the Owner, shall be legally and properly disposed of off Owner's property. A certificate of proper disposal shall be included with the closeout documents.

3.5 INSTALLATION

- A. Refer to drawings for quantity and installation location of new UPS's..
- B. Sequence UPS replacement and associated electrical work (by others) to meet the upgrades substantial completion date.
- C. Where multiple UPS units are provided within a telecommunications room, the Contractor shall distribute the network switches between the UPS units in a manner that appropriately balances the connected load and available UPS capacity. Switches shall be assigned to UPS units based on the electrical load and rated capacity of each UPS. The Contractor shall coordinate the final switch-to-UPS distribution with the Owner prior to installation and shall not exceed the rated capacity of any UPS.
- D. Locations where UPS doesn't fit in wall rack must be installed next to rack on wall. Contractor must provide proper accessories for a complete wall mount installation.
- E. Locations where UPS doesn't fit in standard floor rack shall be installed next to rack. Contractor must provide proper accessories for a complete tower installation.
- F. Contractor shall verify the connected load of each UPS prior to final connection of equipment. The continuous connected load shall not exceed 80 percent of the rated UPS capacity, unless otherwise approved in writing by the Owner. Contractor shall provide load calculations or manufacturer-supported load information upon request to verify compliance.
- G. Coordinate all network outages with the District prior to shut down
- H. Contractor shall provide battery manufacturer, model number, date code, installation date, design life, warranty period, and recommended replacement interval for each UPS battery system as part of the project closeout documentation.
- I. Contractor shall provide all accessories, hardware, cables, connectors, mounting components, adapters, brackets, and other incidental materials required for a complete, operational, and code-compliant UPS installation, whether or not each item is specifically identified in the Contract Documents.
- J. Contractor shall take all necessary precautions to protect existing network, telecommunications, and electrical equipment during UPS replacement. Contractor shall not disconnect or relocate existing equipment except as required to complete the work. Existing equipment shall be protected from damage, dust, debris, and accidental power interruption.

- K. Installation during the school year shall be performed Monday thru Friday during the hours of 4:00 pm – 11:00 pm. Installation during the summer shall be performed Monday thru Friday during the hours of 6:00 am – 4:00 pm.

3.6 CLOSEOUT DOCUMENTATION

- A. Contractor shall provide complete closeout documentation for all UPS equipment installed under this Section.
- B. Provide the following for each UPS:
 - 1. Manufacturer and model number.
 - 2. Serial number.
 - 3. UPS Type.
 - 4. Location/building and rack identification.
 - 5. Battery model and installation date.
 - 6. Network management card information.
 - 7. UPS management software configuration information.
 - 8. Final network switch and patch panel port assignments.
 - 9. Startup and testing documentation.
 - 10. Warranty documentation.
 - 11. Manufacturer's operation and maintenance manuals.
- C. Provide updated electronic documentation reflecting final installed conditions and equipment assignments.
- D. Submit closeout documentation to the Owner prior to final acceptance of the work.

END OF SECTION 26 3353

SECTION 27 0015 – TECHNOLOGY GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Bidding Documents and the Contract, including the Division 01 Specification Section, apply to work of this Section.

1.2 SUMMARY

- A. This Section includes general administrative and procedural requirements for technology installations. The following administrative and procedural requirements are included in this Section to expand the requirements specified in the Division 01 section.
 - 1. Work Restrictions
 - 2. Job Conditions
 - 3. Quality Assurance
 - 4. Delivery, Storage and Handling
 - 5. Guarantee Service and Training
 - 6. Project Record Documents
 - 7. Products - General
- B. This Section includes basic requirements for materials and installations for technology work, including but not limited to:
 - 1. Technology demolition work
 - 2. Cutting, patching and painting
 - 3. Anchors and fasteners
 - 4. Access doors
 - 5. Sealing of openings
 - 6. Sleeves
 - 7. Expansion fittings
 - 8. Grounding procedures
 - 9. Coordination with other trades
 - 10. Installation of user accounts

1.3 WORK RESTRICTIONS

- A. Design Requirements: Furnish all labor, materials, equipment, technical supervision, and incidental services required to complete, test and leave ready for operation the technology systems as specified and as indicated on Drawings.
- B. Performance Requirements: Perform all work in a first class and workmanlike manner, in accordance with the latest accepted standards and practices for the Trades involved.
 - 1. All equipment of the same or similar systems shall be by the same manufacturer.
 - 2. All equipment shall be new, of modern design, and current standard production of the manufacturer.
- C. Substitutions: Base Bid must be in accordance with materials or products specified. Any exceptions to this must be approved in writing by the Technology Designer ten (10) days or more prior to bidding.

1.4 JOB CONDITIONS

- A. Verify conditions at the job site prior to installation.
- B. It is the responsibility of the installing contractor to provide any and all types of specialty equipment needed to provide a complete installation of the equipment and systems specified (i.e. lift, scaffolding, extension ladders, boom trucks).

- C. Keep the job adequately staffed at all times. Unless illness, loss of personnel or other circumstances beyond the control of the contractor, maintain the same individual in charge throughout.
- D. Cooperate with all appropriate parties in order to achieve well-coordinated progress with the overall construction completion schedule and satisfactory final results.
- E. Watch for conflicts with work of other contractors on the job and execute, without claim for extra payment, moderate moves or changes as are necessary to accommodate other equipment or to preserve symmetry and aesthetically pleasing appearance.
- F. Immediately report to the Engineer/Technology Designer any design or installation irregularities, so that appropriate action may be taken.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. All materials shall be new and the system shall be registered under the most current applicable rulings of the Federal Communications Commission (FCC). All components and installations shall bear an Underwriters' Laboratories (UL) listing.
 - 2. Ordinances and Codes: Perform all work in accordance with applicable Federal, State and local ordinances and regulations and in accordance with the Rules, Regulations and Accepted Practices of the following Agencies:
 - a. ANSI American National Standards Institute
 - b. ASTM American Society for Testing and Materials
 - c. BICSI Building Industry Consulting Service International
 - d. CSA Canadian Standards Association
 - e. EIA Electronics Industries Association
 - f. ETL Intertek Testing Services (ETL Testing Laboratories)
 - g. FCC Federal Communications Commission
 - h. ICEA Insulated Cable Engineers Association
 - i. IEEE Institute of Electrical and Electronics Engineers
 - j. ISO International Organization for Standardization
 - k. NEC National Electrical Code
 - l. NEMA National Electrical Manufacturer's Association
 - m. NFPA National Fire Protection Association.
 - n. TIA Telecommunications Industry Association
 - o. UL Underwriters Laboratories, Inc.
 - p. VESA Video Electronics Standards Association
 - 3. Notify the Engineer/Technology Designer before submitting this proposal should any changes in Drawings or Specifications be required to conform to the above codes, rules or regulations. After entering into Contract, make all changes required to conform to above ordinances, rules and regulations without additional expense to the Owner.
 - 4. The code or standard establishing the more stringent requirement shall be followed where areas of conflict occur between codes and standards or between codes and standards and specifications.
 - 5. Barrier-Free Regulations: All materials and installations shall comply with the requirements of the State of Michigan Handicapped Barrier-Free Regulations and with the Americans with Disabilities Act (ADA).
 - 6. Comply with federal, state and local labor regulations and applicable union regulations.
- B. Equipment Manufacturer Qualifications: The equipment shall be built and tested by a manufacturer who has regularly engaged in the production of said equipment for a minimum of five (5) years to assure one source of supply and responsibility.
- C. Equipment Supplier Qualifications: The supplier of the equipment shall maintain permanent service facilities geographically located within a reasonable distance of the installation in order to provide the support and service specified in paragraph "GUARANTEE, SERVICE AND TRAINING". The supplier of the equipment shall be able to design, program and support the equipment and have experience on the design and installation of projects of this size or larger and certify they have no less than five (5) years of continuous experience in this area. The facilities shall include a permanent source of factory-trained

service technicians on 24-hour call experienced in servicing this type of equipment and shall provide warranty and routine maintenance service to afford the Owner maximum coverage. They shall also provide a central source of support to warranty immediate answers to Owner's problems resulting from misunderstanding of the operation of the equipment.

- D. Equipment Installer Qualifications: The installation of the equipment shall be performed by fully qualified personnel, having had experience on the installation of this type and able to certify that they have had no less than three (3) years of continuous experience in this area and have made installation similar to this and of this size or larger.
- E. Project Management Qualifications: The Contractor Project Manager shall be PMP certified or shall have a minimum of three (3) years of project management experience. Contractor shall provide a resume for all staff assigned to these positions.
- F. Sequencing and Scheduling: Sequence and schedule work so as to avoid interference with the work of other Trades and the Owner's operating environment. Be responsible for removing and relocating any work, which in the opinion of the Owner's Representatives causes interference.
- G. Parts listed shall be complete, accurate part/model numbers and equipment furnished shall conform to manufacturer's specifications.
- H. All materials shall be new and shall conform to applicable provisions of Underwriters Laboratories and the American Standards Association.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Store technology equipment, at the vendor's location, as recommended in manufacturer's written instructions and in manufacturer's sealed protective packages until time of installation.
- B. If spare parts are specified, store spare parts at the vendor's location, as recommended in manufacturer's written instructions and in manufacturer's sealed protective packages. Deliver spare parts as part of the project close-out procedure.
- C. Protect technology equipment from damage and theft.

1.7 WARRANTY

- A. General:
 - 1. Warranty: All products shall be warranted to be free from defects in material and workmanship upon installation.
 - 2. The warranty shall begin on the date of acceptance. The date of acceptance shall be defined as the date the Certificate of Substantial Completion is signed by the Engineer/Technology Designer and the Owner.
 - 3. The Contractor shall register all equipment in the name of the Owner and activate all warranties upon Owner acceptance as required by the equipment manufacturer.
 - 4. Provide to the Owner direct access to all equipment manufacturers' technical support structures for hardware and software support. All equipment shall have direct manufacturer support for the duration of the warranty period.
 - 5. As part of the project closeout documentation, provide proof of warranty showing the Owner as the warranty holder. Documentation shall list warranty terms and Owner contact information including shipping address and phone contact information.
 - 6. All services shall be provided on-site at L'Anse Creuse Public Schools.
- B. The following shall apply for all equipment specified that includes a standard manufacturer warranty less than a lifetime in duration unless otherwise noted.
 - 1. A five (5) year warranty period covering all equipment specified including all hardware, firmware, software and major and minor software updates.

2. The equipment Contractor (Vendor) shall be available and shall respond on-site within 24hrs / next business day and without cost to the Owner during the duration of the warranty period to provide support for warranty related issues.
3. Systems and components shall be repaired or replaced within seventy-two (72) hours following report of defects by the Owner.

1.8 TRAINING/SUPPORT

- A. General:
 1. All training shall be coordinated with the District Technology Director, and training shall take place at a L'Anse Creuse Public Schools facility unless otherwise noted.
- B. UPS Network Equipment:
 1. The supplier shall provide one (1), two (2) hour of informal instruction and training session on the operation of the systems and its maintenance with the entire Tech Staff for L'Anse Creuse Public Schools. Training shall include the operation, configuration and troubleshooting of the new UPS network equipment.

1.9 MANUFACTURER'S FIELD SERVICE

- A. Service Personnel
 1. The UPS manufacturer shall directly employ a nationwide service organization consisting of factory-trained field service personnel dedicated to the startup and maintenance of UPS and power equipment.
 2. The manufacturer shall provide a national dispatch center to coordinate field service personnel schedules. One toll-free number shall reach a qualified support person 24 hours a day, 7 days a week, 365 days a year. If emergency service is required, on-site response time shall be four hours or less.
 3. Two local customer engineers shall be assigned to the site with a regional office as a backup. Escalation procedures shall be in place to notify Power Technical Support if a site is not functioning within 24 hours.
- B. Replacement Parts Stocking
 1. Parts shall be available through an extensive network to ensure round-the-clock parts availability throughout the country.
 2. Spare parts shall be stocked by local field service personnel with backup available from national parts center and the manufacturing location. A national parts center Customer Support Parts Coordinator shall be on call 24 hours a day, 7 days a week, 365 days a year for immediate parts availability.
- C. Maintenance Contracts
 1. A complete offering of preventive and full-service maintenance contracts for both the UPS system and battery system shall be available.
- D. Automated Site Monitoring
 1. The UPS manufacturer shall provide as an option an automated site-monitoring service. This service shall be staffed by a qualified support person 24 hours a day, 7 days a week, 365 days a year. At the detection of an alarm within the UPS, the controls shall initiate communications with the monitoring service. The monitoring service shall be capable of interpreting the communicated alarms to allow dispatch of a service engineer.

1.10 PROJECT RECORD DOCUMENTS - GENERAL

- A. Upon project close-out, provide the following:
 1. Hard and electronic copies of the system configuration.
 2. Spare parts, if specified in the technology sections.
 3. Operating manuals and original installation media for all hardware, software and components installed under this contract.

4. Warranty, support and licensing documentation organized in a 3-ring binder including a table of contents. A document from the manufacturer that specifies that the warranty begins at the time of substantial completion as specified for all equipment included in this bid.
5. Certificates for any recycled/disposed equipment.
6. Refer to technology sections for additional requirements.

1.11 PRODUCTS - GENERAL

- A. During the installation, make provisions for all equipment included in the Base Bid and any alternates, whether taken or not, so that items which are to be provided as alternates may be added to the system without rewiring or additional construction.
- B. All miscellaneous equipment required for a complete, professional installation shall be included in the Base Bid. No allowances for any additional equipment, cabling, or miscellaneous will be considered unless specifically excluded from the base bid.
- C. Time shall be allocated in the job for the purposes of training Owner's personnel in the proper use and maintenance of the provided equipment.
- D. No exposed cabling shall be permitted in the wiring of any functions of the provided system. All cable shall be housed in appropriate metal raceways suitable and designed for such purposes.
- E. All work materials shall be removed at the end of the workday and the work area left in the same condition as found.
- F. For educational facilities, while classes are in session, work shall be performed after normal school hours or during periods in which the building is not occupied by students (i.e. holiday breaks, half days, etc.). Adherence to a schedule of working hours, which is agreeable with the Owner, will be required.

1.12 TECHNOLOGY DEMOLITION WORK

- A. General: Perform technology demolition work in a systematic manner. Use such methods as outlined below to complete Work indicated on the Drawings.
- B. Obtain approval from the Owner prior to interrupting existing services. All service interruptions shall be at a time suitable to the Owner. Where the Owner approves service interruptions at times resulting in premium time work to the Contractor, the Contractor shall include the premium time in his Base Bid.
- C. Where applicable, existing in-place raceway may be reused for new work providing that the installation is in accordance with requirements for new work.
- D. After alterations are completed, the entire installation shall present a "finished" look, as approved by the Technology Designer/Engineer. The original function of the present technology systems shall not be changed unless required by the specific revisions to the system as specified or as indicated.
- E. Materials salvaged from this work shall not be reused except where reuse is specifically indicated.
- F. Existing technology equipment removed, not reused and not specifically indicated to be turned over to the Owner, shall be legally and properly disposed of off Owner's property.
- G. Existing technology equipment specifically indicated to be turned over to the Owner shall be disconnected, removed and turned over to the Owner in an undamaged condition to an onsite storage area as directed by the Owner.

1.13 COORDINATION WITH OTHER TRADES

- A. Install Work so as to avoid interferences with the Work of other trades. Be responsible for removing and relocating any work, which, in the opinion of the Owner's Representative, causes interferences.
- B. Should construction conditions prevent the installation of technology equipment at locations shown on the drawings, minor deviations may be permitted and shall be as directed by the Technology Designer/Engineer, and shall be made without additional cost to Owner.
- C. The Technology Trades will be responsible for all damage to other Work caused by their Work or through the neglect of their workers.
 - 1. All patching and repairing of any such damaged Work shall be performed by the trades that installed the Work, but the cost shall be paid by the Technology Trades.
- D. Coordinate all network outages with the District prior to shut down.

END OF SECTION 27 0015

Project Schedule

Task	Completion Dates
Anticipated Award	November 16, 2026
Contracts	November 17, 2026
Installation Services	May 1, 2027 – June 30, 2027
Substantial Completion	June 30, 2027
Closeout Documentation	June 30, 2027 – July 30, 2027

Installation during the school year shall be performed Monday through Friday during the hours of 4:00 PM to 11:00 PM (or 15 minutes after school lets out to 15 minutes prior to custodian closing the building). Installation during the summer or other times the facilities are closed to normal operations shall be performed Monday through Friday during the hours of 6:00 AM to 4:00 PM.

Contractor is expected to be flexible with their schedules to accommodate other Owner conflicts such as building construction projects, cleaning schedules, summer programs, open houses and parent/teacher conferences.