



Jackson County Parks

Jackson, Michigan Electrical Panel Upgrades (Phase 2)

Document No.: 0666.0005-E01

Issued for: BID

Issue Date: 05/29/24



Commonwealth

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00 1119 - REQUEST FOR PROPOSAL

1 PART ONE – GENERAL

1.1 REQUEST FOR PROPOSAL

The Owner invites you to submit a bid for the following:

**ENGINEERING, MATERIAL SUPPLY, AND FABRICATION FOR
CASCADE PARK ELECTRICAL PANEL UPGRADES**

1.2 ACKNOWLEDGEMENT OF RECEIPT

Bidders are requested to acknowledge via email that they have received this Request for Proposal to the contacts listed below.

Jackson County Parks
Jack McCloughan, Superintendent
Tel: (517) 768-2904
E-mail: JMccloughan@mijackson.org

With a copy to:

Jackson County Parks
Josh Hunt, Park Supervisor
Tel:(517) 740-5378
E-mail: JHunt02@mijackson.org

1.3 BID SCHEDULE

The tendering and award process will follow the schedule below:

| ACTIVITY | DATE |
|-----------------------------------|-------------------|
| Issue Request For Proposals | 5/31/24 |
| Pre-Bid Meeting | Not Applicable |
| Notice of Intent to Submit a Bid | 6/4/24 |
| Last date to submit RFP questions | 6/7/24 |
| Bid Due Date | 6/20/24 9:00 a.m. |
| Contract Award | 7/26/24 |
| Project Completion | TBD |

1.4 CONFIDENTIALITY

All documents comprising this RFP, including all design documents, specifications, or other appended or related data are confidential and are the property of the Owner and are only for the purpose of preparing and submitting a proposal in response to this RFP.

END OF SECTION

00 2113 - INSTRUCTIONS TO BIDDERS

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00 2113 - INSTRUCTIONS TO BIDDERS

1 PART ONE – GENERAL

1.1 CONFIDENTIALITY

All documents comprising this RFP, including all design documents, the Specification, or other appended or related data are confidential and are the property of Owner and are only for the purpose of preparing and submitting a proposal in response to this RFP. No information contained or referred to in these bid documents shall be disclosed or released except in strict accordance with the Confidentiality Agreement between bidder and Owner executed in connection with this project.

The Owner or Engineer in making copies of the Bid Documents available do so only for the purpose of obtaining Bids on the work and do not confer a License or Grant for any other use.

1.2 DEFINITIONS

As used in these Bid Documents, the following definitions for the terms apply.

"Bid Documents" means the Request for Proposal, Instructions to Bidders, Agreement, Specifications, Drawings, and Attachments.

"Bid" means a proposal prepared and submitted as required herein.

"Owner" means Jackson County.

"Engineer" means Commonwealth Associates, Inc. under contract to the Owner.

"Bidder", "Seller" or "Contractor" means the equipment supplier and system integrator who will be awarded a contract for purchase of equipment, and enter into a Procurement Agreement for the work as herein defined with the Engineer.

"Installation Contractor" of equipment to be furnished under this contract will be the respective trade contractors awarded the installation work and under separate contract to the Owner.

All capitalized terms used herein and not otherwise defined above shall have the meaning ascribed to such terms in (the "Agreement").

1.3 PRE-BID MEETING

No Pre-bid meeting will be held. If a site visit is requested, contact the Owner prior to the requested date/time.

1.4 ACKNOWLEDGMENT OF INTENT TO BID

Bidders are required to acknowledge their intent to submit a bid, to the parties listed in 00 1119 Request for Proposal, and to advise or confirm the Bidder's primary contact, address, email, telephone and fax number.

Bidders who decline to submit a bid after receiving such bid documents must return all bid documents and maintain the confidentiality of such documents as set forth in Article 1.1 above.

1.5 SITE INSPECTION

Site inspection is not required but is available at the request of the bidder.

1.6 BIDDER'S CONTACTS DURING BID PERIOD

Bidders request for information relating to the RFP during the bid phase shall be submitted by email and sent to the following contacts:

Relating to Commercial Only
Jackson County Parks
Jack McCloughan, Superintendent
Tel: (517) 768-2904
E-mail: JMcloughan@mijackson.org

Relating to Commercial Only
Jackson County Parks
Josh Hunt, Park Supervisor
Tel:(517) 740-5378
E-mail: JHunt02@mijackson.org

With a copy to:

Not Applicable

Questions shall be formatted as follows:

- Clearly identify bidder's name, specific document reference to which the question pertains, and date.
- The document language, or section in question, shall be clearly stated.
- Each question shall be sequentially numbered in each submittal.

Questions shall be submitted in groups to allow for proper consideration and response. Responses to questions will be grouped and published as appropriate, and to all bidders. Bidder shall only rely on responses originating from or confirmed by one of the individuals identified above. The deadline for submitting comments and questions is indicated in the Request for Proposal table.

Questions that bidder believes to be commercially sensitive or confidential shall be individually marked as "Confidential". Questions marked "Confidential" will not be shared with other bidders unless Owner determines that the question is a general, non-sensitive technical or commercial question.

1.7 COST OF BIDDING

Bidder shall bear all costs associated with the preparation and submission of its bid. Neither Owner, nor any agent of the Owner will be responsible or liable for any costs, regardless of the cost or outcome of the bidding process.

1.8 BID DATA DISCLAIMER

Bidder is responsible for examining the complete Request for Proposal ("RFP") and any subsequently issued RFP addenda and is responsible for analyzing all RFP requirements that might in any way affect the cost or performance of any part of the Work. Failure to do so will be at the sole risk of the Bidder, and no relief will be given for errors or omissions resulting there from.

1.9 BID REQUIREMENTS

1.9.1 Submittal

Priced and Un-priced proposals are due no later than 9:00 a.m. EST on the bid submittal date listed in the Request for Proposal. Oral or facsimile bids are invalid and will not receive consideration, nor will telephonic modifications of a bid be considered.

Bidder shall provide one (1) electronic proposal to each addressee below. Proposals shall be e-mailed to:

Jackson County Parks
Jack McCloughan, Superintendent
Tel: (517) 768-2904
E-mail: JMccloughan@mijackson.org

Jackson County Parks
Josh Hunt, Park Supervisor
Tel:(517) 740-5378
E-mail: JHunt02@mijackson.org

With a copy to:

Not Applicable

1.9.2 Contract Currency

All prices in the proposal and pricing forms shall be quoted in US dollars. Contract payments will be made in US dollars.

1.9.3 Required Approvals

Owner expects, and each bid should state, that Bidder has obtained all necessary internal approvals prior to the submission of the bid. All Bids must be signed as follows:

- Corporations: Signature of official shall be accompanied by a certified copy of the resolution of the Board of Directors authorizing the individual signing to bind the corporation.
- Partnerships: Signature of one partner shall be accompanied by a certified copy of the power of attorney authorizing the individual signing to bind all partners. If a certified copy of the partnership's certificate submitted with the Bid indicates that all partners have signed, no authorization is required.
- Bids submitted by joint ventures shall be signed by one of the joint venturers and shall be accompanied by a certified copy of the power of attorney authorizing the individual signing to bind all the joint venturers. If a certified copy of the Joint venture's certificate submitted with the Bid indicates that all joint venturers have signed, no authorization is required.
- Individual signing on own behalf: No authorization is required.
- Individual signing on behalf of another: Power of attorney or comparable evidence of authority shall accompany Bid.

1.9.4 Lead Negotiator

Bids shall designate one lead negotiator who will be available to discuss any questions specific to the Bidder's proposal. Please include relevant contact information for the lead negotiator including telephone numbers, facsimile numbers and email addresses at which the lead negotiator may be reached. Owner will give consideration to the extent to which the lead negotiator is expected to be involved in the management of the project through final completion in the bid evaluation.

1.9.5 Taxes

All proposals submitted shall include all applicable taxes, licenses, fees, etc. Bidders are advised that this work is exempt from state sales tax.

1.9.6 Delivery

All proposals submitted shall include all costs of shipping and related expenses. Freight costs shall be based on Incoterms 2000, DDP (Delivered Duty Paid) "Jackson County" in Jackson, Michigan. Freight cost should be shown in a separate line item.

1.9.7 Warranties

The Bidder shall include with the proposal a minimum equipment warranty of five (5) years commencing only after successful commissioning of the equipment. Bidders shall clearly state warranty terms and conditions within their proposal.

1.9.8 Bid Validity

Bidder's proposal shall remain valid for one hundred twenty (120) days after the bid due date.

1.9.9 Withdrawal of Bids

A Bidder may withdraw a bid, either personally or by written request, at any time prior to the scheduled time for opening bids.

No Bidder may withdraw a bid for a period of one hundred twenty (120) calendar days after the date set for opening thereof without written consent of the Owner, and bids shall be subject to acceptance by the Owner during this period.

1.9.10 Terms of Payment

Not Applicable

1.9.11 Assignment

It is the intent of this project to have all warranties and pricing for spare parts and training quotes to be transferred or assigned to the Owner.

1.10 CONSIDERATION OF BIDS

The Owner does not represent that it will accept any proposal; accept the lowest price proposal; or be precluded from accepting any proposal or other offer.

The Owner shall have the right to accept alternates in any combination and to determine the lowest evaluated and qualified Bidder.

1.10.1 Basis for Automatic Disqualification

Owner will disqualify a bid from further consideration at any point in the bid process for any of the reasons listed below:

- Willful misrepresentation by bidder within the bid.
- Illegal conduct or attempts (or the appearance of attempts) to influence ranking of the bids outside the scope of the bid process.

1.10.2 Basis for Discretionary Disqualification

Owner reserves the right to disqualify any bid submitted as part of the bid process for any reason it deems necessary or desirable, including any of the reasons listed below:

- Failure to submit a complete bid in the form required.
- Failure to provide additional supporting documentation or any clarification that may be requested by the Owner or Engineer subsequent to the submission of the bid in a timely manner.
- Requested changes by Bidder in the fundamental representations made in the bid.
- Failure to maintain the confidentiality of any information provided by Owner on a confidential basis. Such disqualification shall not preclude Owner from pursuing other remedies available in equity or at law.
- Failure to meet minimum requirements identified in these Instructions to Bidders.
- Receipt of a bid after the bid due date.

2 PART TWO – PROPOSAL

2.1 PROPOSAL ORGANIZATION

Bidder's proposal shall be submitted in two separate volumes. One volume shall contain the commercial content and one volume shall contain the technical content. A table of contents is provided below for each volume to assist the bidder in placing the content in order.

Volume 1 – Commercial Priced and Un-priced

1. Bidder's cover letter
2. Bid Form – Section 00 4163
3. Milestone Payment Schedule – Not Applicable
4. Red-line markup of Agreement or Submittal of Seller's Agreement
5. Financial Information
6. Bidder's Organization Structure
7. Bidder's standard field service terms and conditions

Volume 2 – Technical

1. Bidder's Technical Proposal
2. Bid Data Form – Section 00 4333
3. Filled out Bid Submittal Checklist – Section 00 4393
4. Bidder's preliminary project schedule including delivery dates
5. Technical Clarifications and Exceptions List – Section 00 4620

2.2 VOLUME 1 COMMERCIAL PROPOSAL CONTENT

Additional details of the required proposal content are described in the following paragraphs.

2.2.1 Bid Form

Completed Bid Form. This form has been provided in Microsoft Word format provided with the bid documents for the Bidder's use.

2.2.2 Agreement

Each bidder's willingness to accept the Agreement in the original form without significant modification will be a factor in the evaluation of the bids. Each bidder must state in its bid that it is authorized and prepared to execute the Agreement as submitted in its Proposal. Bidders are instructed to review the Agreement and provide its specific changes thereto as part of the Proposal.

The preferred method of communicating these comments to Owner is for Bidder to electronically "mark-up" the Agreement with the specific changes requested by Bidder, such changes must be highlighted or otherwise indicated. The requested changes/comments will be used as a part of the evaluation of the bid and therefore, must be made known in the original bid. Comments and exceptions substantially altering the Agreement will not be considered after conclusion of the bid process and the award of the bid. Failure to submit a marked-up copy of the Agreement with a Proposal will be interpreted by Owner as Bidder's acceptance of the Agreement in the original form provided.

For those portions of the Agreement where an electronic file has not been provided to mark-up, bidder shall use the format for Clarifications and Exceptions.

2.2.3 Commercial Exceptions and Clarifications

Bidder's printed terms and conditions are not considered specific exceptions. Use this form to identify any commercial exception or clarification not listed in the red-line of the agreement.

2.2.4 Bidder's Organization Structure and Organization Chart

Bidder's corporate structure and organization chart must be included with the commercial bid. The organization chart should indicate the overall corporate business structure and indicate where the bidder's business organization relates to the corporate whole. The corporate organization chart should also include the names and positions of the corporate officers, including the person who signs the Bid Form – Section 00 4163.

2.3 VOLUME 2 TECHNICAL PROPOSAL CONTENT

2.3.1 Bidder's Technical Proposal

Bidder shall organize this section using their standard format.

2.3.2 Bid Submittal Checklist

Refer to Section 00 4393 – Bid Submittal Checklist for further details on technical content to be included with proposal.

3 PART THREE – EXECUTION

Not Used

END OF SECTION

00 4163 - BID FORM

BID OF: _____
(Name of Bidder)

Bidder's Proposal Number: _____

1 PART ONE – PRICE

1.1 BASE BID

Base Bid – Demolition of existing light poles, fixtures, and bases (as shown on drawings), as well as installation of lights, poles, bases, and associated conductors (as noted on modified drawings CMP-E1100 and CLL-5000)

The undersigned, having examined the bid documents and having examined the conditions affecting the Work, hereby propose and agree to furnish all labor, materials, and equipment to perform operations necessary to complete the Work as required by said bid documents for the lump sum price in US dollars, fees, and applicable taxes of:

\$ _____
(Words)

\$ _____
(numbers)

This offer shall be open to acceptance and irrevocable for one hundred twenty (120) days from the bid opening date.

1.2 BREAKDOWN

Not Applicable

1.3 VOLUNTARY ALTERNATES

Bidder may provide voluntary alternate bids for utilizing a preferred design which they believe provides the Owner a better alternative than the base bid in accordance with the Specifications. If this option is proposed, then full documentation as required in this RFP must be submitted with bidder's alternate bid. However, no alternate bids will be considered unless a base bid is submitted in compliance with the Specifications.

Voluntary Alternate No. 1 – (Description)
Voluntary Alternate No. 1

\$ _____

Voluntary Alternate No. 2 – (Description)
Voluntary Alternate No. 2

\$ _____

2 PART TWO – FIELD SERVICE UNIT RATES

Not Applicable

3 PART THREE – PROPOSED SUBCONTRACTORS

All proposed subcontractors and suppliers included in the base bid proposals are indicated below:

| <u>Work Scope</u> | <u>Subcontractor Name</u> | <u>Approximate Subcontract Value</u> |
|-------------------|---------------------------|--------------------------------------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

4 PART FOUR – EXCEPTIONS

All commercial exceptions are listed thoroughly and carefully in the format contained in Section 00 4610 and included with this bid.

All technical exceptions are listed thoroughly and carefully in the format contained in Section 00 4620 and included with this bid.

With the exception to the red-line of the Agreement, there are no exceptions taken to the bid documents that are not contained in the two lists above. The technical and commercial exceptions electronic files have been included with this bid.

5 PART FIVE – TECHNICAL BID DATA SHEETS

Bidder has completely filled in the technical Bid Data Sheets, Section 00 4333 of the specification and included the electronic file with the bid.

The undersigned agrees to furnish submittals in accordance with the Submittal List table provided in Section 01 3301, after award of contract or has provided a redline markup of the document with this bid.

6 PART SIX – IDENTIFICATION OF LEAD NEGOTIATOR

The Lead Negotiator for bidder is as follows:

Name: _____
Phone: _____
Mobile: _____
Fax: _____
Email: _____

7 PART SEVEN – PARENT GUARANTOR

Parent Name: _____

Legal Name: _____

Corporate status and jurisdiction: _____

Address: _____

Telephone: _____

8 PART EIGHT – BID DOCUMENT ADDENDA

If any addenda have been issued by the Owner during the bid phase, please list the addenda below. Bidder represents that the following addenda has been incorporated into their bid:

| | | | | |
|---------|---|-------|-------|-------|
| Addenda | # | _____ | Dated | _____ |
| | # | _____ | Dated | _____ |
| | # | _____ | Dated | _____ |

9 PART NINE – SIGNATURE

The undersigned certifies that the bid prices contained herein are firm and not subject to escalation and have been carefully checked, all internal approvals obtained and are submitted as correct and final in accordance with this inquiry and all attachments hereto:

The undersigned agree(s) to accept a contract for the work covered by this proposal, in accordance with the Contract Documents within ten days after written notification of award.

Firm Name: _____

Legal Name: _____

Address: _____

Telephone: _____ Fax: _____

By: _____
(Typewritten)

(Signature)

Title: _____

e-Mail: _____

Date: _____

Indicate Status: Corporation _____ Limited Liability Corporation _____
Joint Venture _____ Individual _____
Other (Specify) _____

END OF SECTION

00 4325 – VOLUNTARY ALTERNATE LISTING

PURCHASER: Jackson County Parks – Jackson, MI
Jackson, Michigan

PROJECT:

CONTRACT FOR: Electrical panel upgrades (Phase 2)

BID OF: _____

(Name of Bidder)

The Base Bid Lump Sum Price proposed by the undersigned on the Bid Form is for the Work as shown on the Drawings, described in the Specifications, and includes only the equipment configurations, components and materials specified or otherwise defined in the Contract Documents.

The undersigned acknowledges that any change in the system configuration, equipment and/or material that he wishes to have considered for acceptance in place of the specified basis are indicated below with an indication of change from his Base Bid amount. Furnish complete documentation attached to this form describing the proposed Voluntary Alternate Bid.

Should the Owner accept any or all of the proposed Voluntary Alternates, the bidder's proposed Base Bid Lump Sum Price will be adjusted accordingly by the amounts indicated below.

| | | | |
|----|-------|----------------------|-------|
| A. | _____ | (Add) (Deduct) \$ | _____ |
| B. | _____ | (Add) (Deduct) \$ | _____ |
| C. | _____ | (Add) (Deduct) \$ | _____ |
| D. | _____ | (Add) (Deduct) \$ | _____ |

Name of Bidder: _____

By: _____

Title: _____

Date: _____

Instructions: This form is provided in MS Word format. Submit and return the completed form electronically with your proposal.

END OF SECTION

00 4333 – BID DATA FORMS

1 PART ONE - GENERAL

1.1 SUMMARY

Bidder shall complete the attached Bid Data Forms and submit with their proposal.

An Excel file will be provided with the RFP for Bidder to complete and submit with proposal.

2 PART TWO – PRODUCTS

Not Used

3 PART THREE – EXECUTION

Not Used

END OF SECTION

ATTACHMENTS

Bid Data Forms

| ELECTRICAL PANEL UPGRADES | | | | | |
|---|--------------|-------------|--|--|--|
| Information To Be Provided | Units | Data | | | |
| 1.0 Descriptive Submittal List | | | | | |
| Reference 26 0500 General Electrical Requirements, Section 3.1 | | | | | |

00 4393 – BID SUBMITTAL CHECKLIST

1 PART ONE - GENERAL

1.1 SUMMARY

This section provides a checklist of items that should be included in the Seller's proposal.

1.2 BID SUBMITTAL CHECKLIST

- Bid Form, Section 00 4163
- Material Delivery Schedule
- Bid Data Forms, Section 00 4333, including Excel file.
- Clarifications & Exceptions to this specification, Section 00 4600
- Spare Parts Lists and Pricing

2 PART TWO – PRODUCT

Not Used

3 PART THREE – EXECUTION

Not Used

00 4600 – CLARIFICATIONS AND EXCEPTIONS

1 PART ONE - GENERAL

1.1 SUMMARY

Bidder shall complete the following table including all of their clarifications and exceptions to the specification.

Bidder's printed terms and conditions and proposal are not considered specific exceptions. All clarifications and exceptions shall be listed in the attached table.

1.1.1 Related Requirements

- Section 00 4610 Commercial Clarifications and Exceptions List
- Section 00 4620 Technical Clarifications and Exceptions List

1.2 CLARIFICATIONS AND EXCEPTIONS

1.2.1 Definitions

Item - A sequential number for each exception or clarification.

Section - The RFP section where the exception or clarification is being taken.

Paragraph - The heading or article number where the exception or clarification is being taken.

Type - Exception (E), Clarification (C), or Question (Q)

Description - A description or reason for the exception or clarification

Response - Owner/Seller's response to the exception or clarification

2 PART TWO – PRODUCT

Not Used

3 PART THREE – EXECUTION

Not Used

END OF SECTION

Contractor:

| Item | Date Rcv'd | RFP Section | Paragraph | Type | Description of Clarification, Exception or Question | Response Date | Response |
|------|------------|-------------|-----------|------|---|---------------|----------|
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26 0500 - GENERAL ELECTRICAL REQUIREMENTS

1 PART ONE - GENERAL

1.1 SUMMARY

This specification section describes the requirements for furnishing and installing all electrical components associated with the project and is part of the bid documents.

1.2 INSTRUCTIONS TO BIDDERS

Bidders are to transmit their bids directly to the Owner. Submit bids electronically to:

Mr. Jack McCloughan. Email: JMcccloughan@mijackson.org

Mr. Josh Hunt. Email: JHunt02@mijackson.org

Bidders shall provide bids based on the construction drawings and this specification. Any provided alternate bids should be addressed as such separate from the base bid.

Provide all pertinent information about the bidders' company, including name, address, phone numbers, etc. Any further information required by the Owner shall be provided as well.

If any shutdown of any of the electrical systems is required, notify the Owner at least 24 hours in advance of the proposed shutdown.

1.3 SCOPE

The equipment and materials to be furnished and delivered shall consist of electrical design components as required for proper operation of the packaged equipment complete with accessories as specified herein and on any included data sheets.

1.4 REFERENCES

1.4.1 Reference Standards

National Electrical Manufacturers Association (NEMA)

250 Enclosures for Electrical Equipment

National Fire Protection Association (NFPA)

70 National Electric Code (Latest version as approved by the State of Michigan.)

Underwriters Laboratories

All electrical equipment must meet the appropriate UL Standard for the type of equipment being procured and/or installed.

2 PART TWO - PRODUCTS

2.1 NAMEPLATES

Nameplates identifying equipment tag numbers shall be furnished for all equipment. Component specific nameplate requirements for rotating equipment and electrical equipment shall be as specified in the individual equipment specifications.

Nameplates shall be laminated white phenolic engraving stock with black core, or acceptable equal. The lettering shall not be less than 3/16 inch high. As space permits, nameplates

shall have an overall minimum size of 3/4 inch by 3 inches for small equipment nameplates, and 2 inches by 8 inches minimum for major equipment nameplates. The nameplate size shall be subject to acceptance by the Engineer during drawing review.

Nameplates for equipment located in non-air-conditioned areas shall be attached with stainless steel panhead screws, rivets, or drive screws. Nameplates in air-conditioned rooms may be attached with adhesive. Nameplates shall be not less than 1/16-inch-thick when attached with adhesive, and not less than 1/8-inch-thick when attached with rivets or screws.

2.2 FACTORY ASSEMBLY

Equipment shall be shipped completely factory assembled, except when the physical size, arrangement or configuration of the equipment, or shipping and handling limitations make the shipment of completely assembled equipment impracticable, in which case the equipment shall be assembled and shipped as stated in the Seller's proposal.

When proposals are submitted without statements describing sectional shipments, it will be understood that no field assembly of the equipment will be required, and the Seller shall be responsible for all field assembly of sections, accessories, or appurtenances not listed in the Proposal as requiring field assembly.

2.3 SHOP COATING

Painting and coatings, if required for damaged equipment, shall be repaired in accordance with manufacturer's instructions.

2.4 PROTECTION

All equipment shall be boxed, crated, or otherwise suitably protected during shipment, handling, and storage. Equipment having antifriction or sleeve bearings shall be protected by weathertight enclosures.

Coated surfaces shall be protected against impact, abrasion, discoloration, and other damages. Surfaces which are damaged shall be repaired.

Electrical equipment, controls, and insulations shall be protected against moisture and water damage. All external gasket surfaces and flange faces, couplings, rotating equipment shafts, bearings, and like items shall be thoroughly cleaned, coated with rust-preventive compound and protected with suitable wood, metal, or other substantial type covering to ensure their full protection. All exposed threaded parts shall be greased and protected with metallic or other substantial type protectors.

All piping, tubing, and conduit connections on equipment and other equipment openings shall be closed with rough usage covers or plugs. Female threaded openings shall be closed with forged steel plugs. The closures shall be taped to seal the interior of the equipment. Open ends of piping, tubing, and conduit shall be sealed and taped.

Returnable containers and special shipping devices shall be returned by the manufacturer's field representative at the Seller's expense.

2.5 ELECTRICAL ENCLOSURES

Unless indicated otherwise in these specifications, electrical enclosures, except junction boxes and pull boxes 4-inch trade size and smaller, shall be as follows:

| <u>Location</u> | <u>Enclosure Type</u> |
|---|---|
| Indoor (Non-hazardous) | |
| Dry areas (Space conditioned rooms only) | NEMA 12 |
| Wet areas | NEMA 4 |
| Corrosive areas | NEMA 4X |
| Outdoor (Nonhazardous) | NEMA 4 (NEMA 3R, if 4 is not available) |

Electrical enclosures, except those of cast metal, shall be constructed from steel plate reinforced as required to provide true surface and adequate support for devices mounted thereon. Thickness of the steel plate shall conform to the requirements of UL. Enclosures shall be of adequate strength to support mounted components during shipment and to support a concentrated load of 200 pounds on their top after erection.

All junction boxes or pull boxes four (4) inch trade size or smaller in any dimension shall be galvanized malleable iron or acceptable equal cast ferrous metal.

Junction boxes and pull boxes shall be in accordance with the requirements of NEC, Article 370, and shall be without knockouts.

2.6 WIRING

In general, all devices furnished under these specifications and requiring electrical connections shall be designed for wiring into electrical enclosures with terminal blocks. Terminal blocks shall be furnished for conductors requiring connection to circuits external to the specified equipment, for internal circuits crossing shipping splits, and where equipment parts replacement and maintenance will be facilitated.

Splices will not be permitted.

All electrical cables shall be conservatively selected for the electrical and environmental conditions of the installations and shall be of the best construction for the service where unusual service conditions are encountered. Proper temperature application cable shall be used throughout. Except where required to be otherwise to perform satisfactorily in the service, or unless otherwise specified in the detailed specifications, all electrical power conductors shall be Class B, stranded copper conductors. Minimum power conductor size shall be 12 AWG.

All connections requiring disconnect plug and receptacle type devices shall be provided with factory terminated conductors on each plug and receptacle. Plugs and receptacles shall be factory wired into junction boxes containing terminal blocks for external connections. All conductors on the disconnect portion of plug-receptacle assemblies shall be in a common jacket.

Conductors: Conductors for general use shall be THHN.

Conduit: Below ground conduit shall be Schedule 40 PVC. All above ground conduit, including PVC conduits that turn above ground shall be RGS.

2.7 EQUIPMENT SAFETY GROUNDING

All electrical equipment that is part of an integral shipping unit or assembly shall be furnished with bare copper grounding conductor extending to a central ground connection lug for connections to the equipment grounding conductors.

Unless otherwise specified, ground conductors shall be uninsulated strand Class B standard round soft drawn uncoated copper as defined in ICEA S-19-81, and all clamps, conductors, bolts, washers, nuts, and other hardware used with the grounding system shall be copper.

2.8 WEATHERPROOFING

All outdoor electrical equipment and all appurtenances shall be designed for satisfactory operation during 100 mile per hour wind and driving rain. All exposed unpainted parts shall be fabricated of corrosion-resisting metal. All ventilating openings shall be louvered on outdoor electrical equipment to prevent entrance of rain under weather conditions described above. All ventilating openings on outdoor electrical equipment shall be equipped with fine mesh filters and stainless steel bug screens.

2.9 RACEWAY

All raceway between devices, boxes, panels and fittings shall be rigid conduit installed with threaded fittings. Liquidtight flexible metal conduit may be used for lengths up to three feet. Liquidtight flexible metal conduit shall be coated with a sunlight resistant thermoplastic jacket and be UL listed. High temperature jacket materials shall be used where required.

Conduit fittings shall conform to UL 514 and be gasketed. Liquidtight flexible metal conduit fittings shall be galvanized steel or malleable iron with insulated throat.

Conduit shall enter enclosures and devices from below or as noted on the drawings. Conduit enter all enclosures by steel or malleable iron hubs. All conduits shall be installed in exposed runs parallel or perpendicular to dominant surfaces with right angle turns made of symmetrical bends or fittings. Conduit shall be properly supported by means of conduit clamps and clamp-backs. Moisture pockets are to be eliminated by means of low point drain fittings. Conduit bonding and grounding shall be in accordance with the National Electrical Code.

2.10 QUALITY CONTROL TESTS AND INSPECTIONS

Each motor shall be tested and inspected at the manufacturer's factory to determine that it is free from electrical or mechanical defects and to provide assurance that it meets the requirements of these specifications. Test procedures for single-phase fractional horsepower motors shall be in accordance with IEEE No. 114 Test Procedure for Single-Phase Induction Motors.

3 PART THREE - EXECUTION

This specification, along with the drawings, become part of the contract. The drawings describe the scope of services and location of the work to be performed by this contractor.

The successful bidder shall notify the Owner prior to commencing any work so that the Owner knows when the Contractor will be on site. All electrical shutdowns shall require notice to the Owner with at least a 24-hour notice.

3.1 DESCRIPTIVE SUBMITTAL LIST

Prior to procuring any equipment required by the construction documents, submit manufacturer's catalog information or other data to fully describe the equipment for Owner and/or Engineer approval. Submit one copy to the Owners, noted above.

If any manufacturers' data includes other similar equipment, Contractor shall clearly highlight what is being provided, otherwise the submittal may be rejected.

Contractor shall provide data, as a minimum, on the following equipment:

Light Fixtures and Poles

If there is a need for questions or clarifications on the drawings or scope of work, please contact Owners, as noted above.

END OF SECTION