

PROJECT MANUAL

FOR



2020 Sinking Fund Bid Package 22: Baldwin Electrical Phase 2

(November 3, 2022)

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The following documents are part of this bid package; however, they are only available for viewing and printing on the portal. The link to the portal is noted on the Advertisement for Bids (Page 3 of the front-end documents)

- M. Rochester Community Schools Safety Standards
- N. Contractual Project Safety Rules



ADVERTISEMENT FOR BIDS Rochester Community Schools – 2020 Sinking Fund

Project:	Rochester Community Schools
Description:	Bid Package 22 – Baldwin Elementary Fire Pump Generator
Architect:	Ghafari 17101 Michigan Ave., Dearborn, MI 48126
Construction Manager:	Frank Rewold and Sons Inc. 303 E. Third St., Suite 300, Rochester, MI 48307
Estimators:	Mike Gagnon/Joe Lucci (248) 601-1212/(248) 601-1240 mgagnon@frankrewold.com/jlucci@frankrewold.com Questions addressed ONLY to Mike Gagnon or Joe Lucci
Bid Documents:	Bid documents including bid forms may be obtained from Frank Rewold and Sons Portal at: https://frankrewold.sharefile.com/d-s022b188eb85146ef8be408c83fbdfad4 Bid documents will be available on or after November 3, 2022
Non-Mandatory Prebid Walk-Through:	11:00 a.m., Thursday, November 10, 2022 - Meet at Baldwin Elementary School, 4325 Bannister Blvd., Rochester, Michigan 48306. Meet at the main entrance.
Bid Due Date:	2:00 p.m., Tuesday, November 22, 2022 Bids will only be accepted on forms provided. Proposal forms must be in a sealed envelope, mailed or delivered in person prior by 2:00 p.m. EST on the due date to:
	Attn: Jennifer Fickel, Rochester Community Schools C/O Frank Rewold and Sons Inc. 303 E. Third St., Suite 300, Rochester, MI 48307
2:15 p.m. Public Bid Opening: Tuesday, November 22, 2022	Frank Rewold and Sons Inc. 303 E. Third St., Suite 300, Rochester, MI 48307 4th Floor Mezzanine
Labor and Material and Performance Bond:	In accordance with Michigan Compiled Laws Section 129.201, successful contractor(s) must obtain Performance and Payment Bonds for any Bid Category exceeding \$50,000. The Performance and Payment Bonds shall be in an amount equal to the contract amount. The Performance and Payment Bonds shall be for the protection of Rochester Community Schools and Frank Rewold and Son Inc. and shall be executed by a surety company authorized to do business in the state of Michigan and be listed in Federal Register or have an AM Best Rating of B+ or better. All bonds to be dual obligee bonds to Rochester Community Schools and Frank Rewold and Son Inc.
Prevailing Wage Rates:	Not required
Bid Bond:	5% bid security required. Bid bonds are required, however, certified or cashier checks are acceptable for bids under \$50,000.
Nonexempt:	This project is not tax exempt for state sales tax and/or use tax. All materials and supplies incorporated and used in construction and becoming a permanent part of this project will not be exempt from state sales tax and/or tax
Disclosure Statements:	Each bid proposal must be accompanied by a sworn and notarized statement disclosing any familial relationship that exists between owner or any employee of bidder and any member of board of education or superintendent of Rochester Community Schools. Each bid proposal must also include a signed Iran Economic Sanctions Affidavit. The board of education will not accept a bid proposal that does not include this sworn and notarized disclosure statement or the Iran Economic Sanctions.



BID CATEGORIES

A Electrical



INSTRUCTIONS TO BIDDERS

Rochester Community Schools – 2020 Sinking Fund Bid Package 22 – Baldwin Electrical Phase 2

Bid Documents Availability

FRS will make the bid documents available for reviewing on or after November 3, 2022 at these locations:

FRS Office:	303 E. Third Street, Suite 300
	Rochester, MI 48307
FRS Portal:	https://frankrewold.sharefile.com/d-
	s022b188eb85146ef8be408c83fbdfad4

Prospective bidders will notify FRS by email at mgagnon@frankrewold.com of their intent to bid and intended bid categories. Bid documents will be available only in the following manner: FRS Portal.

BIDDERS SHALL NOT CONTACT THE OWNER OR ARCHITECT FOR DOCUMENTS.

Drawings and specifications remain the property of the Architect.

Prebid Meeting

A non-mandatory walk-through is scheduled for Tuesday, November 10, 2022 at 11:00 a.m. The pre-bid meeting will be held at Baldwin Elementary School, 4325 Bannister Boulevard, Oakland Township, Michigan 48306. Meet at the main entrance.

Bond Requirements

Provide pricing for a Payment and Performance Bond; do not include in base bid. In accordance with Michigan Compiled Laws Section 129.201, successful contractor(s) must obtain Performance and Payment Bonds for any bid category exceeding \$50,000. The Performance and Payment Bonds shall be in an amount equal to the contract amount. The Performance and Payment Bonds shall be solely for the protection of ROCHESTER COMMUNITY SCHOOLS and Frank Rewold and Son Inc. and shall be executed by a surety company authorized to do business in the state of Michigan and be listed in Federal Register or have an AM Best Rating of B+ or better. All bonds are to be dual obligee bonds to Rochester Community Schools and Frank Rewold and Son Inc.

Equal Opportunity – Employment Policies

The Bidder agrees that it will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin or age. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to race, religion, color, sex, or national origin.

Bidder Qualifications

Bidders under consideration for award of the work shall provide evidence demonstrating a minimum of five (5) years' experience of successfully completing work of similar category and scope. Bidder shall provide evidence of financial ability to perform the work. Bidder shall provide evidence of bonding capability, as described by the project manual, whether or not bonding is required.

The Owner and Construction Manager shall be the sole determiner of the acceptability of the evidence presented.

Provision for Bidder Qualification does not supersede or negate Owner's rights.

Method of Bidding

Bids will be accepted only on forms provided. Proposal forms must be in a sealed envelope mailed or delivered in person to: Jennifer Fickel, C/O Frank Rewold and Sons Inc., 303 E. Third Street, Suite 300, Rochester, MI 48307 prior to the due date of 2:00 p.m., Tuesday, November 22, 2022. The outside of the envelope must be clearly marked with the bid category.

Bids must be for complete work within a single bid category. Partial bids are sufficient reason for rejection of the bid. If a bidder is bidding multiple bid categories, proposals must be submitted for each individual bid category and in individual envelopes. At the bidder's option, the bid form allows for a multiple bid category award discount.

Proposals shall be based upon all the bid documents, including the Advertisement for Bids, the Instructions to Bidders, Subcontractor Agreement, Construction Drawings, Project Manual and the Technical Specifications.

Bid Form

In order to receive consideration, make bids in strict accordance with the following:

Submit bids upon the forms provided, properly signed and with all items filled out. Do not change the wording of the bid form, and do not add words to the bid form. Unauthorized conditions, limitations, or provisions attached to the bid may be cause for rejection of the bid. If alterations by erasure or interlineation are made for any reason, explain over such erasure or interlineation with a signed statement from the Bidder.

Facsimiles (FAX) or email proposals will *not* be accepted.

Submit only (1) one copy of all bid documents.

The Owner reserves the right to keep all information concerning such bids confidential as permitted by law.

A sworn and notarized statement disclosing any familial relationship that exists between owner or any employee of bidder and any member of board of education or superintendent of Rochester Community Schools must accompany each bid proposal. The board of education will not accept a bid proposal that does not include this sworn and notarized disclosure statement.

A signed Iran Economic Sanctions Affidavit must also accompany each bid proposal. The board of education will not accept a bid proposal that does not include this affidavit.

A 5% bid security must also accompany each bid proposal. Bid bonds are preferred, however, certified or cashier checks will be acceptable for bids under \$50,000. The board of education will not accept a bid proposal that does not include the bid security.

Examination of Documents and Site of Work

Before submitting a bid, each Bidder shall examine the drawings carefully, shall read the specifications and all other proposed contract documents, and shall visit the site of the work. Each Bidder shall fully inform himself prior to bidding as to existing conditions and limitations under which the work is to be performed, and shall include in his bid a sum to cover the cost of items necessary to perform the work as set forth in the proposed contract documents. No allowance will be made to a Bidder because of lack of such examination or knowledge. The submission of a bid will be considered as conclusive evidence that the Bidder has made such examination.

Withdrawal of Bids

A Bidder may withdraw his bid by requesting the withdrawal in writing at any time prior to the scheduled time for opening bids.

No Bidder may withdraw his bid for a period of sixty (60) calendar days after the date set for opening thereof, and bids shall be subject to acceptance by the Owner during this period.

Execution of Agreement

The Form of Agreement, which the successful Bidder will be required to execute, is the Construction Managers' Contractor-Subcontractor Agreement.

The Bidder to whom the contract is awarded shall, within five (5) calendar days after notice of award and receipt of Agreement Forms from FRS, sign and deliver required copies to FRS.

At or prior to delivery of the signed Agreement, the Bidder to whom the contract is awarded shall deliver to FRS those Certificates of Insurance and bonds required by the Owner. FRS shall approve certificates of insurance and bonds before the successful Bidder may proceed with the work. Failure or refusal to provide bonds or certificates of insurance 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.

Interpretation of Contract Documents Prior to Bidding

If any company contemplating submitting a bid is in doubt as to the true meaning of any part of the contract documents, or finds any discrepancies or omissions in any part of the contract documents, they shall submit to FRS a written request for interpretation a minimum of 3 days prior to the bid due date. The person submitting the request shall be responsible for its prompt delivery.

Interpretation or correction of proposed contract documents will be made only by addendum or written correspondence and will be mailed or delivered to all who are known by FRS to have received a complete set of bidding documents. Neither the Owner, Architect, Engineer, nor FRS will be responsible for any oral explanations or interpretations of the proposed contract documents.

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.

<u>Taxes</u>

All bids in original contract work, and for all other work thereunder, shall include all applicable taxes, including social security, unemployment, and any local, township, state, or federal government taxes, except real property taxes on the site.

Proposal shall also include all premiums, assessments, and other like payments, charges, and costs incidental to the work covered by the contract documents.

Post Bid Information

Bidders to whom award of a contract is under consideration shall submit to FRS, upon request, a properly executed AIA Document A305, Contractor's Qualification Statement.

Bidders to whom award of a contract is under consideration shall submit to FRS a schedule of values that separately defines basic groups of material as well as their labor and generally limits line items to no greater than \$50,000.

Bidders to whom award of a contract is under consideration shall submit to FRS a list of proposed subcontractors and suppliers.

Bid results will be posted by FRS on the FRS Portal approximately 48 hours after the bid opening. Bidders shall not contact the CM, Owner, or Architect for bid results.

Schedule of Work

The project will begin June 12, 2023 and conclude no later than August 18, 2023. *See Section G Project Milestone Schedule.*

Permits

The Owner will pay for the building permit, tap-in or usage fees, right-of-way, and soil erosion permits levied by the township, county or state agencies. All other trade permits, including plumbing, HVAC, fire suppression, fire alarm, electrical, etc. will be obtained and paid by the installing contractors.

Bid Opening

The bid opening will be public with the owner and will take place at 2:15 p.m., Tuesday, November 22, 2022 at FRS corporate offices, 303 E. Third Street, Suite 300, Rochester, MI 48307, in the 4th floor mezzanine. Bids received after the due date or time as posted by the Advertisement for Bids or subsequent Addendum will be rejected.

Post Bid Conference

Low bidders will be required to attend post-bid interviews. Other bidders may also be requested to attend post-bid interviews.

Bid Documents

The Bid Documents consist of Instructions to Bidders, FRS Project Manual and bid category descriptions dated November 3, 2002 and drawings and project specifications prepared by the architect dated October 7, 2022.

Voluntary Alternates

All bids shall be in compliance with the bid documents. If a Bidder wishes to propose an alternative product or method, the alternate is to be identified on the proposal form as a Voluntary Alternate and the deduct value provided on the form with the description of the alternate. Voluntary Alternates shall not be included in the base bid amount. <u>Voluntary Alternates are encouraged</u> and may be the basis for award of contract.

Trade Alternates

Required alternates from individual trades will be defined within the bid category descriptions. All bidders must provide a response to any and all alternates listed in their bid category in the space provided on the Bid Form.

Mandatory Alternates

At times, portions of the work will be bid as mandatory alternates. These alternates will be defined within the architect's technical Specification Sections 01-2300 Alternates. All bidders should review this section and are required to provide a response to the mandatory alternates in the space provided on the Bid Form.

Extra Work

Should extra work or charges occur during the project, each contractor will provide the following.

- An "estimate" of the cost if an exact total is not available
- Time sheets signed by Rewold's superintendent at the end of each day. Note names, specific location and description of work
- Backup from material/equipment suppliers showing copies of invoices, etc.
- Final pricing must be received within one (1) week of request.
- Contractor markup is limited to 10% of all costs

Note: No additional costs will be accepted if this information is not provided.

Required Meetings

All contractors will be required to attend our MOP meeting and Safety Orientation Presentation prior to beginning work on site.

All contractors will be required to attend weekly job meetings when requested by FRS. Attendees shall be the contractors project superintendent or foreman.

Owner's Rights

The Owner reserves the right to reject any or all bids in whole or in part and waive any informalities herein, when in the opinion of the Owner, such action will serve the best interest of the Owner.

The Owner reserves the right to award the contracts to whomever it elects.

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.

The Owner reserves the right to negotiate with any Bidder without re-bidding the project in whole or in part.

The Owner reserves the right to accept combination bids for more than one bid category.

Document Information Discrepancy

If discrepancies occur between the bid category scope of work, individual specifications, drawings, or details, the Bidders will notify FRS prior to submitting a proposal. If a clarification is not issued, all Bidders will assume the most costly options and will include those costs within their proposal. No additional compensation will be granted should these conflicts be encountered through the duration of the project.

Insurance Requirements

Submission of this proposal signifies this contractor has read, understands, and will comply without exception to insurance requirements of Frank Rewold and Son Inc. as outlined on Pages 5 and 6, Item 13, labeled "Insurance and Indemnification" of the Subcontractor Agreement. A current Certificate of Insurance <u>must</u> be on file at our office <u>before purchase orders will be issued</u>.

- - General instruction notes to bidders follow - -

GENERAL NOTES TO BIDDERS Applies to <u>all bid categories</u> and Bidders

- A. FRS has been selected by the Owner as Construction Manager and shall have such authority with regard to each contractor as its agreement with the Owner allows.
- B. Contractor shall coordinate its work all the contractors and Owner's Consultants and shall cooperate for the expedient completion of the project.
- C. Contractor shall include, within their bid proposal, sufficient compensation as part of their scope of work for the following items.
 - 1. All taxes appropriate and payable except property taxes assigned to completed work.
 - 2. All permits, licenses, and fees unless noted otherwise by the specifications. The Owner will obtain the building permit. Contractor to schedule and attend all inspections.
 - 3. Restoration of damaged area outside of the project limits, or within the project limits when deemed by the Owner to be due to negligence.
 - 4. Unloading, movement, hoisting, and placement of material or equipment.
 - 5. Surveying and layout beyond building corner and elevation benchmarks.
 - 6. All layout work, engineering, and field measuring required for the work of the individual trade.
 - 7. Off-site or on-site storage and security of equipment and material.
 - 8. Barricades, traffic controls, and all other safety measures relating to its work.
 - 9. Coring, cutting, and patching as required by the work.
 - 10. Cleanup on a daily basis, including placing of all debris in project dumpsters in an efficient manner. Failure to do so will result in FRS performing cleanup work and back charging the appropriate contractor. There will be no exceptions.
 - 11. Full-time on-site supervision during the performance of this work. The Supervisor will be responsible for coordination, scheduling of labor and equipment, safety, and other activities necessary to achieve the project safety, quality and scheduling requirements. The Supervisor shall not be removed or changed without prior consent and approval of FRS.
 - 12. Protection of all new and existing work as required to prevent damage from contractors or any other work. The installing contractor will make any required repairs to materials or work in place, which is not properly protected, at no cost to the Owner.
- D. Location of material and equipment storage, vehicle parking, and staging areas shall be established only after approval of the FRS field superintendent.
- E. Existing driveways, sidewalks, building entrances are not to be obstructed except with prior written authorization of FRS.

- F. Contractor shall take all necessary safety precautions with respect to its own work and shall comply with all government regulations, Owner rules, and the FRS safety program. The contractor shall immediately report to FRS any injury to any of the contractor's employees.
- G. Marked-up or reproduced Architect's drawings are not to be submitted as shop drawings.
- H. Contractor shall maintain worker compensation insurance during the life of the contract, as required by the state of Michigan. Contractor shall also maintain comprehensive general liability insurance, as described in the Contract Agreement.
- I. Contractor to provide product warranties in a form acceptable to the Owner for a term not less than one year, or as required by the specifications, commencing with substantial completion. Warranties shall be provided prior to final payment.
- J. Contractor shall attend regular and special meetings as deemed necessary by the Owner or FRS.
- K. All billings are to be submitted via email to accounting@frankrewold.com.
- L. In the event contractor encounters on-the-site material reasonably believed to be asbestos, polychlorinated biphenyl (PCB), or other hazardous materials that have not been rendered harmless, contractor shall immediately stop work in the area affected and report the condition to FRS in writing.
- M. Contractor shall be responsible to provide Safety Data Sheets (SDS) to FRS for any proposed materials or supplies to be used on site per OSHA Hazard Communications Standard and/or Michigan Right-To-Know Law.
- N. Contractor shall be responsible for compliance with the current requirements, laws and ordinances regulating or prohibiting disposal of any contaminants and contaminated substances.
- O. Prior to mobilizing on site, contractor shall meet with the project team to discuss and resolve any issues relating to material ordering, scheduling, safety, site conditions, site logistics, quality control, and sequencing of work. Prior to this meeting, contractor shall have provided a schedule of values, site specific safety manual, SDS data, insurance certificate, bond (if required), permits (if required), emergency contact information data, and a detailed working schedule to FRS.
- P. Provide a copy of contractor's site-specific safety program.
- Q. Contractor employees must attend FRS project specific safety orientation program, which includes review of our safety video, review of project specific written safety program, signin and employee identification requirements.
- R. Contractor shall designate a safety representative(s) who will be working on site. Provide the safety representative's telephone and emergency telephone numbers. Safety rep must be CPR, first aid certified.
- S. No smoking or chewing tobacco allowed anywhere in the building or site.
- T. No radios/i-pod-like devices allowed within areas of construction.
- U. Hard hats, safety glasses, proper footwear, and reflective high visibility top are to be worn 100% all the time.

- V. Hoisting over occupied areas is not be permitted unless areas are vacated or a controlled access program is approved and initiated. A pre-lift plan is required.
- W. Hot work permits shall be obtained from FRS for all cutting, torching, and grinding activities.
- X. Shutdown notifications shall be obtained from FRS for interruptions to existing Owner operations, including utility shutdowns or modifications.
- Y. 100% fall protection for all exposures 6' or greater will be enforced in all areas of work, for all workers.
- Z. Toolbox safety talks will be completed on a weekly basis by each contractor. Sign-in sheets will be submitted to FRS as a condition of payment.
- AA.Contractor within one (1) week after receiving a notice to proceed, shall start submitting required shop drawings, apply for local permits, submit product data and other required submittals to support project scheduling. Each submittal shall follow submittal procedures as identified.
- BB.Furnish and deliver all materials required by this work, FOB jobsite. All deliveries shall be closely coordinated (minimum 48-hour notification) and approved by FRS prior to shipping. Materials can be delivered and staged on carts within certain areas as long as they are installed within 30 days of being delivered. Excessive, out-of-sequence and early delivery of materials will be prohibited and subject to re-handling and removal off site as directed by FRS.
- CC. Working hours will be defined by FRS and local ordinance. Any deviation from these may result in a back charge for FRS Superintendent overtime.
- DD. Any work that the contractor feels is a change to the contract must be brought to the attention of FRS within 10 calendar days with signed field tickets. Failure to do so will result in forfeiture of any monies owed.
- EE.All punch list items must have completion approved by FRS within 10 business days of issuance of punch list. Failure to do so will result in FRS completing the work and back charging the contractor.
- FF. Contractor proposal IS NOT part of the contract document unless specifically noted with the Contractor Agreement. Any exclusion not specifically written into the Contractor Agreement will not be acknowledged.
- GG. Contractor acknowledges and agrees the work within their contract may not be completed in a single mobilization and that their bid includes as many mobilizations as required to complete the project as scheduled by FRS.
- HH. All contractors should note that there will not be any extras allowed except for requested added scope. Any work that can be inferred from the drawings and/or specifications must be included in the base bid.
- II. If any contractor cannot maintain the schedule, they will be required to work overtime at the contractor's expense, including any additional expense for FRS personnel.

- JJ. If any contractor fails to properly staff the project or cannot maintain the schedule, FRS may hire additional companies or labor, at the contractor's expense, to complete the contractor's work any time after 48 hours written notice.
- KK.Contractors are to have trained and qualified personnel completing all work. Any personnel FRS deems to be unqualified can be removed from the site at any time.

PROJECT SPECIFIC NOTES TO BIDDERS Applies to <u>all bid categories</u> and Bidders

- 1. Daily Cleanup All on-site personnel will spend a minimum 15 minutes at the end of each day cleaning up the site including picking up trash and debris, sweeping floors, and hauling trash to the appropriate dumpsters.
- 2. Site Security:
 - a. All persons entering the site will be required to sign in at the job-site trailer or school office.
 - b. All persons entering the site shall have proper identification consisting of a visible company badge, company logo clothing, or hard hat with FRS sticker.
 - c. All deliveries entering the site will be required to check in at the job-site trailer or school office.
- 3. The project site is located on a highly visible and public property and requires the utmost care and consideration for the property and its visitors. Therefore:
 - a. There will not be any smoking or tobacco use allowed on the property.
 - b. All personnel will be required to stay within the construction limits at all times. Preapproval by the owner will be required for any work outside the boundaries.
 - c. Any inappropriate interactions with the property staff, students, or visitors will be reason for immediate removal from the site.
 - d. The public will be adjacent to the construction activities so all site personnel are expected to act appropriately at all times including no vulgar language, no radios, no inappropriate activities, and no unwanted interactions with the public. Warnings will be provided, but removal from the site will be an option.
- 4. Standard work hours for this project 7:00 to 3:30 Monday through Friday. FRS personnel are to be on site during all work hours so any contractor working outside those hours may be required to reimburse FRS for their additional hours.
- 5. Contractor shall provide one hard copy and one electronic copy of all operation and maintenance manuals, as-built drawings and other closeout documents specified by the project documents or as deemed appropriate by the Owner.
- 6. Any damage to existing facilities, existing landscaping, or new installed work is to be reported immediately by anyone and everyone that notices it. If it is not reported, all contractors on site will split the cost of repairs.
- 7. ProCore: The project will be managed via ProCore and all contractors must participate. If needed, FRS will provide training.
- 8. All project submittals, samples, closeout documents, etc. are to be delivered to FRS corporate office at 303 E. Third St., Suite 300, Rochester, MI 48307
- 9. Contractors are not to include any costs for third party inspections in their base bid. However, contractors are to cooperate and coordinate their work with FRS and the inspecting agency as required.

- 10. Contractors are to include all costs for surveying and layout in their base bid from control points and building corners provided by FRS.
- 11. Contractors are not to include any allowances in their base bid, even if specifically listed in the project documents, unless specifically noted in the bid scope.
- 12. Contractors are not to include any costs for attic stock in their base bid.
- 13. Contractors are not to include any service and/or maintenance services in their base bid even if specifically listed in the project documents. Provide any additional cost for specified services under the trade alternate section on the bid form.
- 14. Contractors are not to include any costs in their base bid for temporary utility usage costs, unless specifically noted in the bid scope.
- 15. Contractors are not to include any costs in their base bid for winter conditions, temporary roads, temporary walls or enclosures, temporary facilities, private utility markings, general floor protection, or final cleaning, unless specifically noted in the bid scope.
- 16. Contractors are not to include any utility company fees or costs within their base bid unless specifically noted in the bid scope. However, contractors are to cooperate and coordinate their work with the respective utilities as required.
- 17. Contractors are to include all and any costs for drawing and/or CAD fees as specified in the architect's technical specifications. Contractors are to fill out the proper forms and work directly with the architect for any required CAD drawings.
- 18. Contractors are not to include any costs for fire watches in their base bid. However, any work that will limit, hinder, or shut down any existing fire alarm, fire protection or other facility safety system, including safe access routes, must provide FRS 48 hours written notice prior to that work beginning. After notification, FRS must give approval prior to this work beginning.
- 19. All bids are to be based on the specifications including materials, equipment, etc. being provided by any of the listed suppliers or manufacturers. However, if a bid is based on a supplier or manufacturer other than the one listed for the basis of design, the contractor must note this under the voluntary alternate section on the bid form.
- 20. Contractor to provide standard one-year labor and workmanship warranty in base bid.
- 21. All contractors to provide a Covid-19 Preparedness And Response Plan to FRS prior to mobilizing on site.
- 22. All personnel on site must comply with the FRS and their company Covid-19 Preparedness and Response Plans. Anyone not following these rules may be removed from the site

PROJECT BID SCOPES

The notations on the following pages are specific to the bid category mentioned. These notes are presented to clarify certain portions of the work to be performed under the bid category. The notes are not to be construed as a complete itemization of work included in the bid category or do they relieve the contractor of their responsibility to deliver a complete job in accordance with plans and specifications.

Nothing contained in the bidding documents, including the bid category descriptions, shall be construed as an assignment of work to any construction trade. Each contractor is responsible for its own work assignments when making this proposal. Information regarding scheduling of work is provided within the specific notes. Final complete schedule will be prepared after award of work.

Bid Category A – Electrical

Work for this bid category includes, but is not limited to:

- 1. The requirements of the General Notes To Bidders Section.
- 2. All required permits and inspection fees for work of this bid category. Contractors are to schedule and attend all inspections.
- 3. Provide all common work results as specified for work of this trade.
- 4. Furnish and install all hangers, supports, fasteners, etc. as required for work of this trade.
- 5. Furnish and install all firestopping/sealants for work of this trade.
- 6. Furnish and deliver all required access doors to provide access to work of this bid category. Access doors will be installed by others.
- 7. Furnish and install all sleeves, raceways, and boxes for low voltage work; cable and equipment to be installed by others. Furnish and install blank covers over all boxes installed by this bid category.
- 8. Furnish and install power system work and related accessories/specialties for a complete system and modify existing as required.
- 9. Furnish and install lighting system work and related accessories/specialties for a complete system as required and modify existing as required.
- 10. Furnish and install lighting control system and related accessories/specialties for a complete system as required and modify existing as required.
- 11. Furnish and install fire alarm work for a complete functioning, AHJ approved system.
- 12. Coordinate installation of all electrical work with the architectural drawings.

<u>Project specific work for this bid category includes, but is not limited to:</u> The requirements of the Project Specific Notes To Bidders.

- A. This contract is responsible for all work shown on the drawings and specifications except for those items specifically listed below. There will not be any other contractors performing work on this project except as specifically noted below.
- B. Provide removal from site of all debris and trash generated by this trade. Debris can be placed in a contractor supplied dumpster or removed from the site daily.
- C. New generator and all associated equipment to be provided and delivered to site by others. See attached shop drawings for all required information.
- D. Generator package (by others) to include everything as shown in the submittals, including controls, factory start-up, and owner training.
- E. Provide coordination of generator delivery, unloading and installation of generator and all associated components.
- F. Provide all electrical cut, cap, and demolition required for the shown work.

- G. Provide all architectural, civil demolition required for this work including, sawcutting, tree removal, concrete removal, asphalt removal, wall removal, etc.
- H. Provide all excavation, backfill, compaction and grading for new work including restoration of all disturbed areas.
- I. Provide tree protection and soil erosion fence as shown.
- J. Provide all concrete work including equipment pads and sidewalk patching.
- K. Provide stone base for asphalt per detail.
- L. Provide coordination with DTE for all required activities including obtaining DTE work orders, DTE approvals, DTE shut downs, etc.
- M. Provide any temporary enclosures, temporary barricades, and temporary safety requirements required to complete this work.
- N. Provide temporary protection wherever and as needed to protect all existing construction, property, etc. during construction. The costs to repair any damage to the existing building or property will be the responsibility of this contractor.
- O. Provide insulated metal covers for existing louvers in pump house.
- P. Furnish and install any required plywood backboards.

Exclude

- 1. The exclusions noted in the Project Specific Notes To Bidders
- 2. Furnishing of the generator
- 3. Asphalt replacement.
- 4. Direct DTE costs for all associated work.
- 5. Painting
- 6. Gas piping demolition or new

<u>Mandatory Alternates</u> Mandatory alternate pricing is not required for this bid category.

Trade Alternates

Trade alternate pricing is not required for this bid category.

Unit Costs

Mandatory unit cost pricing is required for this bid category.

1. Hourly rate increase for work performed on afternoon or weekend shifts, per man hour

-- End --



BID PROPOSAL FORM

BID PACK NO.

PROJECT:

TO:

C/O Frank Rewold & Sons Inc. Deliver to: Frank Rewold and Sons Inc. 303 East Third St., Suite 300 Rochester, MI 48307

FROM:

(Company Name)

Pursuant to and in compliance with the 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 that portion of work indicated below as identified on the drawings. Unless specifically excluded, Contractor includes the work as described in the individual bid category descriptions without exception.

<u>Base Bid</u>

Note: The amounts for base bids shall be shown in both words and figures. In case of a discrepancy, the amount shown in words shall govern. Base bid shall include sales tax.

Bid Category:

Lump Sum Amount (written):

Dollars: \$

Add for Performance, Payment, and Labor Bond Costs

Lump Sum Amount (written):

Dollars: \$

Multiple Award Discount

The Owner may choose to award more than one bid category to a Bidder. If your firm is submitting proposals on more than one bid category and are offering a discount if multiple awards are made to your firm, clearly describe the discount below (percentage, lump sum, etc.):

List Bid Categories:

Total Discount: \$

Mandatory Project Alternates

These alternates are to be quoted by all bidders. See the FRS Project Manual for complete descriptions.

\$
\$
\$
\$
\$
\$
\$
\$
\$
\$
\$
\$
\$
\$

Mandatory Trade Alternates

Where required by the bid scope category, provide requested alternate pricing:

 Please verify if base bid includes:

Specified basis of design equipment or materials Other listed acceptable equipment or materials

Base bids must be made on work as shown and described by the bid documents. If your firm is offering an alternative installation or method describe below and include the amount to be deducted or added to your base bid:

Description	\$
Description	\$
Description	\$
Description	\$

Unit Prices

All bidders are to provide their billable hourly rates either below or on a separate attachment. Hourly billable rates are to include overhead, profit, and all office staff.

Where required by the specification or bid scope, provide unit price information below:

Description	Cost:	Per:
Description	Cost:	Per:

Costs and Fees for Additional Work

The undersigned agrees that he will, when so instructed by FRS in writing, perform additional work at the unit costs listed above. For work not described by a unit cost, compensation will be at the following cost and fees:

For extra work performed with FRS's written authorization by Bidder's own forces, direct costs plus a 10% fee.

For extra work performed with FRS's written authorization by Bidder's subcontractor forces, direct costs plus a 10% fee.

Direct cost shall include labor, material, tools, equipment and services. The fee shall include all overhead and profit.

<u>Taxes</u>

This project is <u>not</u> exempt from state sales tax. The undersigned understands that state and local sales and use taxes and federal taxes on materials used in construction are applicable to this work and are included in this base bid.

Addenda and Bid Memorandum

The undersigned acknowledges the receipt of the following addenda and Bid Memorandum and includes the cost of the work in this proposal.

Addendum #:	Dated:	Bid Memorandum #:	Dated:
Addendum #:	Dated:	Bid Memorandum #:	Dated:
Addendum #:	Dated:	Bid Memorandum #:	Dated:
Addendum #:	Dated:	Bid Memorandum #:	Dated:

Bid Security

Bid security **is** required for this project. A bid security in the amount of five percent (5%) of base bid shall accompany **all** proposals. Bid bonds are required, however, certified or cashier checks will be acceptable for bids under \$50,000.

Withdrawal of Bids

The undersigned agrees that their proposal shall not be withdrawn for a period of sixty (60) days after the day set for receipt of proposal.

Document Information Discrepancy

If discrepancies occur between the bid category scope of work, individual specifications, drawings, or details, the bidding contractors will notify FRS prior to submitting a proposal. Should no clarification be issued, all bidding contractors will assume the most costly options and include those costs within their proposals. No additional compensation will be granted should these conflicts be encountered through the duration of the project.

Insurance Requirements

Submission of this proposal signifies this Bidder has read, understands, and will comply without exception to insurance requirements of the AIA Contract Documents. A current Certificate of Insurance **must** be on file at our office before purchase orders will be issued.

Bidder acknowledges they can meet or exceed the insurance requirements

Contract Requirements

Submission of this proposal signifies this Bidder has read, understands, and will comply without exception to the Subcontract Agreement.

Bidder acknowledges they accept the contract documents.

Scope Requirements

Submission of this proposal signifies this Bidder has read, understands, and will comply without exception the general notes to Bidders, the project specific notes to Bidder, and the project bid scope for this bid category.

Bidder acknowledges they accept the scope requirements.

Schedule

Submission of this proposal signifies this Bidder has read, understands, and will comply with the project schedule provided in the FRS Project Manual.

Yes, Bidder will comply with schedule

No, Bidder can not comply with schedule

Longest equipment leadtime:

Acceptance

The undersigned agrees to execute a contract for the work covered by this proposal, provided he/she is notified of its acceptance within sixty (60) days of the bid due date. This contractor also agrees to comply with the information provided within as it relates to schedule, overtime, extra work, bid category descriptions, etc.

Authority to Sign

The individual signing this proposal warrants they have the authority to obligate the company to the provisions and requirements of the project documents.

Company Name:		
Address:		
City:	State:	Zip Code:
Telephone Number:		
Email Address:		
Signature:		(Form must be printed and signed)
Date:		
Other Items		
Our current EMR Rating is:		

The following Iran Economic Sanctions Act Compliance Form must be executed and submitted. The following Bidder Affidavit / Familial Disclosure Statement must be executed and submitted . A 5% Bid Security must be attached. A bid bond if bid is over \$50,000 or a certified or cashiers check is acceptable if bid is under \$50,000.

Bidder Clarifications – if required by bidder attach and submit with bid from.

PROVIDE ONLY (1) COPY OF ALL PROPOSAL DOCUMENTS

CERTIFICATION OF COMPLIANCE – IRAN ECONOMIC SANCTIONS ACT Michigan Public Act No. 517 of 2012

The undersigned, the owner, or authorized officer of the below-named company (the "Company"), pursuant to the compliance certification requirement provided in the Rochester Community Schools' Request For Proposal (the "RFP"), hereby certifies, represents, and warrants that the Company (which includes 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 the Company is awarded a contract by Rochester Community Schools or Frank Rewold and Sons, Inc. as a result of the aforementioned RFP, the Company is not and will not become an "Iran Linked Business" at any time during the course of performing any services under the contract.

The Company 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 two (2) times the amount of the contract or proposed contract for which the false certification was made, whichever is greater, the cost of the Rochester Community Schools' investigation, and reasonable attorney fees, in addition to the fine. Moreover, any company who submits a false certification shall be ineligible to bid on a request for proposal for three (3) years from the date the company submitted the false certification.

Company Name:		
Address:		
City:	State:	Zip Code:
Telephone Number:		
Email Address:		
Signature:		(Form must be printed and signed)
Date:		

AFFIDAVIT OF BIDDER (Familial Disclosure Statement)

The undersigned, the owner or authorized officer of	_ (the "Bidder"),
pursuant to the familial disclosure requirement provided in the Rochester Community	Schools' Request
For Proposal (the "RFP"), 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 Superintende	nt of the School
District.	

List any Familial Relationships:

Dr. Robert Schaner, Superintendent of Schools

Scott Muska, Board Member

Kristen Bull, Board Member

Kevin Beers, Board Member

Michelle Bueltel, Board Member

Barbara Anness, Board Member

Joseph Pittel, Board Member

Company Name:		
Address:		
City:	State:	Zip Code:
Telephone Number:		
Email Address:		
Signature:		(Form must be printed, signed and notarized)
Date:		
STATE OF MICHIGAN COUNTY OF This instrument was acknowledged before me by	 on the day of	, 2022,
, Notary Public County, Michigan My Commission Expires: Acting in the County of:		

Rochester Community Schools Baldwin Electrical Phase 2

PROJECT MILESTONE SCHEDULE

Date
11/22/22
12/12/22
12/16/22
01/20/23
06/12/23
08/18/23

Schedule Notes:

- 1. All well work has to be completed prior to August 18, 2023. If equipment is not available in time for that schedule please let us know with the bid.
- 2. Generator (provided by others) delivery is scheduled for June of 2023.

STANDARD SUBMITTAL FORM Attachment to Specification Section 013300

1. To:		2. From:			3. Date Submittee	d:		
	Ghafari Associates, L.L.C.				4. Submittal No.		5. 🗆 N	ew
	17101 Michigan				6. Specification S	Section No.		esubmittal
	Dearborn, MI 48126							
Attn:	Submittals Processing	Attn:			7. Ghafari Project	t No.		
Phone	: 313-441-3000 Fax : 313-425-3660	Phone:	Fax:		8. Project Title:			
Email:	submittals@ghafari.com	Email:			-			
Note:	SEND PHYSICAL SAMPLES TO ADDRES	S ABOVE						
9. Cop	ies 10. Item Description		11. Mfr/Contractor	12. Cont	ractor's Remarks:			
						Roviewe	d By	
						Josh Ri	nke	
						06/14/2022	1:28:59	
The uno	dersigned certifies that the above-submitted item	s have been reviewed	d in detail and are correct a	nd in strict co	onformance with all req	uirements of the c	ontract docu	iments,
except	as otherwise noted. Note: Approval of items sub	nitted does not reliev	e contractor from complying	g with all requ	uirements of the contra	ct documents.		
13. Na	me of Contractor		Signature					
	G	HAFARI ASSOCIATE	ES L.L.C - SUBMITTAL VE	RIFICATION	I SECTION			
If a di	scipline necessary for proper review is not lis	ted, add Comme	nts:					
to the	distribution list and forward the submittal fo	r review.						
	ACTION TAKEN							
	REVIEWED							
	REVIEWED WITH COMMENTS							
	REVISE & RESUBMIT							
	FILE ONLY, NOT REVIEWED							
	NOT REQUESTED. NOT REVIEWED							
	DISTRIBUTION							

	Architectural		Interior	
	Civil		Landscape	
	Structural		Tel/Data	
	Mechanical		Industrial	
	Electrical			
Reviewed by & Date:				DEVIEW IS FOR CENERAL CONFORMANCE WITH THE DESIGN CONCERT AND CONTRACT DOCUMENTS. THIS OFFICE ASSUMES NO RECOMPLETIVE FOR
I C VIC	wea by a bate.	ma		REVIEW IS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND CONTRACT DOCUMENTS. THIS OFFICE ASSUMES NO RESPONSIBILITY FOR
		CKG	C.GRUNDY	THE ACCURACY AND COMPLETENESS OF THE SUBMITTAL. THIS REVIEW DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ANY DEVIATION
		-	07/04/2022 9:19:42	FROM THE CONTRACT DOCUMENTS. IF THIS SUBMITTAL DOES NOT CONFORM TO THE GHAFARI CONSTRUCTION DOCUMENTS, SUBMIT A WRITTEN
	I			EXPLANATION OF THE VARIANCE.

Contractor Instructions for Use of Standard Submittal Form

1. Use an individual copy of this form for each and every required project submittal.

Submitting contractor shall fill in items 2 through 13 in the shaded area including the following:

- 2. Contractor's return address and contact information
- 3. Submittal date
- 4. Submittal number
- 5. Indicate "New" or "Resubmittal"
- 6. Specification Section number that submittal is in response to
- 7. Ghafari project number
- 8. Project title
- 9. Indicate the quantity of submittal copies
- 10. Describe the submitted item
- 11. Identify the manufacturer/vendor/subcontractor
- 12. Include appropriate remarks as required
- 13. Contractor's name and signature

The remainder of the submittal form will be completed by Ghafari or their designated representative, and returned to the Contractor with the submittal.

Contractor Instructions for Sending Submittals electronically

- 1. Send via email to: submittals@ghafari.com.
- 2. Send in an individual email transmission formatted as follows:
- 3. The email subject line shall include the following information:
 - a. Project Name
 - b. Ghafari Project Number
- 4. The email attachments shall be in pdf format and include the following:
 - a. Fully completed Standard Submittal Form
 - b. All parts of the submittal must be bound together into one pdf file when possible.
 - c. Contractor file name and submittal number should be the same.

Contractor Instructions for Sending RFI's electronically

- 1. RFI's must be submitted on the Contractors RFI form.
- 2. The form must include the Ghafari Project Name and Project Number.
- 3. Send via email to: <u>submittals@ghafari.com</u>.
- 4. Send in an individual email transmission formatted as follows:
- 5. The email subject line shall include the following information:
 - a. Project Name
 - b. Ghafari Project Number
- 6. The email attachment shall be in **pdf format** and all parts must be bound together into one pdf file when possible.
- 7. Contractor file name and RFI number should be the same.

Note: Delete this page before sending submittal.



Rochester Schools Sinking Fund Generator

GENERATOR SYSTEM SUBMITTAL PACKAGE For Review / Approval

Wolverine Power Systems 46968 Liberty Drive Wixom, MI 48393 **Ivan Custodio** (616) 403-9457



GENERATORS & MOBILE POWER PRODUCTS SALES · RENTALS · SERVICE & PARTS



SERVICE

QUOTE #: 22-0428-ICBL

4/14/2022

SUBJECT: Generator System Quote: Rochester Community Schools Sinking Fund Generator

Wolverine Power Systems is pleased to submit the following proposal for your consideration and approval.

BILL OF MATERIALS:

Quantity 1 - Generac Industrial gaseous 9.0L V-8 engine-driven generator, consisting of the following features:

- Stationary Emergency-Standby rated
- 150 kW Rating, wired for 277/480 VAC three phase, 60 Hz
- Permanent Magnet Excitation
- Level 1 Acoustic Enclosure, Steel, Industrial Grey Baked-On Powder Coat Finish
- UL2200, EPA Certified
- H-100 Control Panel
 - o Meets NFPA 99 and 110 requirements
 - o Temp Range -40 to 70 degrees C
 - Digital Microprocessor:
 - Two 4-line x 20 displays, full system status
 - 3 Phase sensing, +/-0.25% digital voltage regulation
 - RS232, RS485 and Canbus remote ports
 - Waterproof connections
 - All engine sensors are 4-20ma for minimal interference
 - Programmable I/O
 - Built-in PLC for special applications
 - Engine function monitoring and control:
 - Full range standby operation; programmable auto crank, Emergency Stop, Auto-Off-Manual
 - Isochronous Governor, +/-0.25% frequency regulation
 - Full system status on all AC output and engine function parameters
 - Service reminders, trending, fault history (alarm log)
 - I2T function for full generator protection
 - Selectable low-speed exercise
 - o 2-wire start controls for any 2-wire transfer switch
- 21 Light Annunciator Surface/Flush-Mount
- Remote Emergency Stop Switch, break-glass, shipped loose
- Natural Gas fuel system (7-11")
- 110 AH, 925 CCA Group 31 Battery, with rack, installed
- Air Filter Restriction Ind
- Battery Charger, 10 Amp, NFPA 110 compliant, installed
- Coolant Heater, 1500W, 120VAC
- 120V GFCI and 240V Outlet
- 8 Position 1PH Load Center ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL
- Alternator Strip Heater
 REQUIREMENTS PRIOR TO INSTALLATION.
- Alternator Strip Heater

•

- Extreme Cold Weather Kit
 - Flex Fuel Line 90A.3P, 225A.3P 100% RATED CIRCUIT BREAKETS
- 250 Amp Primary MLCB, 100% rated thermal-magnetic with Shunt trip and aux contacts
- 1 Hour factory load test at reactive (0.8) power factor
- Standard 2-Year Limited Warranty
- SG0150KG269.0S18HPSYE

This quotation and supporting materials contain confidential and proprietary business information of Wolverine Power Systems and Generac Power Systems. These materials may be printed or photocopied for use in evaluating the proposed project but are not to be shared with other parties outside of your organization.



GENERATORS & MOBILE POWER PRODUCTS SALES · RENTALS · SERVICE & PARTS



QUOTE #: 22-0428-ICBL

4/14/2022

QUOTE IS BASED ON THE LIMITED INFORMATION OBTAINED FROM PROJECT SPECIFICATIONS. NO DRAWINGS WERE PROVIDED. WOLVERINE POWER SYSTEMS IS NOT RESPONSIBLE FOR ANY ITEMS NOT INCLUDED IN THE BILL OF MATERIALS THAT MAY BE REQUIRED BY THE ENGINEER.

Generator enclosure is not certified to be wind resistant up to 100 mph as defined in project specifications.

Generac Sound Attenuated Enclosure will withstand winds up to 110 mph.

SCOPE OF WORK:

- 1. Freight charges, to one destination within the state of Michigan. Offloading by others
- 2. Start-up / testing of equipment and training by a Factory Trained & Certified Technician during normal business hours.
 - Normal business hours are M-F 8:00AM to 4:30PM. After hours Startups are available an additional charge may apply.
 - Training session will be provided upon day of start up by Wolverine Power Systems Technician. If training cannot be completed on day of startup an <u>additional charge may apply</u>.

This quotation and supporting materials contain confidential and proprietary business information of Wolverine Power Systems and Generac Power Systems. These materials may be printed or photocopied for use in evaluating the proposed project but are not to be shared with other parties outside of your organization.

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CONTROL PANEL AND OPTIONS 0172110SBY 0604160SSD

ALTERNATOR AND OPTIONS 0182620SSD 0187980SBY

0603480SSD

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0163180SBY 0180230SBY

0183630SSD

0189380SSD

0191900SBY

0192390SSD

0604400SSD

084918Q_SBM

0K9452B

INSTALLATION DRAWINGS

10000018604

10000019113

GENSET ELECTRICAL DRAWINGS 0K9429

WD G9.0L G18 TURBO H-PANEL

INSTALL O/S G9.0L D-GRP INSTALL L1A G9.0L D-GRP

SYSTEM INTERCONNECT DRAWINGS 0191120SSD

INTERCONNECT DIAG H PANEL

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EMSNWRNTY001

SPEC SHT SG150 9.0L DOMESTIC

SPEC SHEET H-100 CONTROL PANEL 21-LIGHT/RELAY PANEL DATA

G26 ALT DATA SHEET 150 KW GENPROTECT DATA SHEET ALT STRP HTR SPEC SHEET

BATTERY INDEX SERIES 2000 ENCL SPEC SPEC SHEET RHINO COAT 125A LOAD CENTER SUB DATA EATON CB TABLE THERM/MAG 2.5A & 10A BATT CHRGR H&G EATON CB LUG DATA ELEC GOV GAS ENG SUB DATA BLOCK HTR 1500W 120V 084918Q SBM SOUND DATA G9.0 150KW L1A

QUALITY CERTIFICATION DOC STANDARD 2B WARRANTY ISO CERTIFICATE 9001 : 20 NGNXB08.92O3-019 EPA WARRANTY EMSN STATEMENT

SG150 | 9.0L | 150 kW INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency



DEMAND RESPONSE READY

Standby Power Rating 150 kW, 188 kVA, 60 Hz



Image used for illustration purposes only

Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.

	UL2200, UL508, UL489
(SP)	CSA C22.2
	BS5514 and DIN 6271
INTERNATIONAL.	SAE J1349
	NFPA 37, 70, 99, 110
(nec)°	NEC700, 701, 702, 708
ISO	ISO 3046, 7637, 8528, 9001
	NEMA ICS10, MG1, 250, ICS6, AB1
Ample	ANSI C62.41
	IBC 2009. CBC 2010. IBC 2012.

os pd ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012) Powering Ahead

Generac ensures superior quality by designing and manufacturing most of its generator components, such as alternators, enclosures, control systems and communications software. Generac also makes its own spark-ignited engines, and you'll find them on every Generac gaseous-fueled generator. We engineer and manufacture them from the block up - all at our facilities throughout Wisconsin. Applying natural gas and LP-fueled engines to generators requires advanced engineering expertise to ensure reliability, durability and necessary performance. By designing specifically for these dry, hotter-burning fuels, the engines last longer and require less maintenance. Building our own engines also means we control every step of the supply chain and delivery process, so you benefit from singlesource responsibility.

Plus, Generac Industrial Power's distribution network provides all parts and service so you don't have to deal with third-party suppliers. It all leads to a positive owner experience and higher confidence level. Generac spark-ignited engines give you more options in commercial and industrial generator applications as well as extended run time from utility-supplied natural gas.

SG150 | 9.0L | 150 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

STANDARD FEATURES

ENGINE SYSTEM

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Critical Silencer/Catalyst •

Fuel System

- NPT Fuel Connection on Frame
- Primary and Secondary Fuel Shutoff

Cooling System

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- 50/50 Ethylene Glycol Antifreeze
- Radiator Drain Extension

Electrical System

- Battery Charging Alternator
- Battery Cables
- Battery Trav
- **Rubber-Booted Engine Electrical Connections**
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM

- UL2200 GENprotect™
- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator •
- Permanent Magnet Excitation
- Sealed Bearings ۰
- Amortisseur Winding •
- Full Load Capacity Alternator •

DEMAND RESPONSE READY

INDUSTRIAL

GENERATOR SET

GENERAC

- Internal Genset Vibration Isolation
- Separation of Circuits High/Low Voltage
- Separation of Circuits Multiple Breakers
- Wrapped Exhaust Piping
- Standard Factory Testing
- 2 Year Limited Warranty (Standby Rated Units)
- Silencer Mounted in the Discharge Hood (Enclosed Units Only)

ENCLOSURE (If Selected)

- · Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuation Enclosures)
- Gasketed Doors
- Stamped Air-Intake Louvers
- Upward Facing Discharge Hoods (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat[™] Textured Polyester Powder Coat Paint

Alarms and Warnings Time and Date Stamped

Snap Shots of Key Operation Parameters During

Alarms and Warnings Spelled Out (No Alarm Codes)

SPEC SHEET

2 of 6

CONTROL SYSTEM



Digital H Control Panel- Dual 4x20 Display

Program Functions

- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable Logic Controller
- RS-232/485 Communications
- All Phase Sensing Digital Voltage Regulator
- ۰ 2-Wire Start Capability
- Date/Time Fault History (Event Log)
- ۰ Isochronous Governor Control
- Waterproof/Sealed Connectors ۰
- Audible Alarms and Shutdowns •
- Not in Auto (Flashing Light)

- Auto/Off/Manual Switch
- E-Stop (Red Mushroom-Type)
- NFPA 110 Level I and II (Programmable)
- Customizable Alarms, Warnings, and Events •
- Modbus[®] Protocol
- Predictive Maintenance Algorithm
- Sealed Boards ۰
- Password Parameter Adjustment Protection •
- Single Point Ground
- 16 Channel Remote Trending
- 0.2 msec High Speed Remote Trending
- Alarm Information Automatically Annunciated on the Display

Full System Status Display

- Power Output (kW)
- Power Factor
- kW Hours, Total, and Last Run •
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents •
- **Oil Pressure** ۰
- **Coolant Temperature** ۰
- Coolant Level

- Engine Speed
- Battery Voltage
- Frequency

Alarms and Warnings

- Oil Pressure
- Coolant Temperature
- Coolant Level
- Low Fuel Pressure

 Engine Overspeed Battery Voltage

Alarms and Warnings

SG150 | 9.0L | 150 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

CONFIGURABLE OPTIONS

ENGINE SYSTEM

- Engine Block Heater
- Oil Heater
- Air Filter Restriction Indicator
- Radiator Stone Guard (Open Set Only)
- Baseframe Cover/Rodent Guard
- Level 1 Fan and Belt Guards (Enclosed Units Only)
- Shipped Loose Critical Silencer (Open Set Only)

FUEL SYSTEM

○ NPT Flexible Fuel Line

ELECTRICAL SYSTEM

- 10A UL Listed Battery Charger
- Battery Warmer

ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater
- Tropical Coating

CIRCUIT BREAKER OPTIONS

- Main Line Circuit Breaker
- O 2nd Main Line Circuit Breaker
- O Shunt Trip and Auxiliary Contact
- Electronic Trip Breakers

ENGINEERED OPTIONS

ENGINE SYSTEM

- Coolant Heater Ball Valves
- Fluid Containment Pan

ALTERNATOR SYSTEM

○ 3rd Breaker System

GENERATOR SET

- Demand Response Rating
- Extended Factory Testing (3-Phase Only)
- IBC Seismic Certification
- 8 Position Load Center

ENCLOSURE

- Weather Protected Enclosure
- Level 1 Sound Attenuated
- Level 2 Sound Attenuated
- Level 2 Sound Attenuated with Motorized Dampers

○ Steel Enclosure

- Aluminum Enclosure
- AC/DC Enclosure Lighting Kit
- Enclosure Heater
- $\,\circ\,$ Pad Vibration Isolation
- Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- Door Open Alarm Switch

DEMAND RESPONSE READY

CONTROL SYSTEM

- NFPA 110 Compliant Level 1 21-Light Remote Annunciator
- Remote Relay Assembly (8 or 16)
- $\circ~$ Oil Temperature Indication and Alarm
- Remote E-Stop (Break Glass-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Flush Mount)
- 10A Engine Run Relay
- Ground Fault Annunciator
- 100 dB Alarm Horn
- 120V GFCI and 240V Outlets
- Damper Alarm Contacts (Motorized Dampers Only)
- O Auxiliary Circuit Breaker Contacts to Controller

WARRANTY (Standby Gensets Only)

- 2 Year Extended Limited Warranty
- 5 Year Limited Warranty
- O 5 Year Extended Limited Warranty
- O 7 Year Extended Limited Warranty
- 10 Year Extended Limited Warranty

eaker 90A.3P, 225A.3P - 100% RATED CIRCUIT BREAKETS

CONTROL SYSTEM

GENERATOR SET

• Special Testing

○ Battery Box

Battery Disconnect Switch



SPEC SHEET

3 of 6


SG150 | 9.0L | 150 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

APPLICATION AND ENGINEERING DATA

DEMAND RESPONSE READY

INDUSTRIAL

ENGINE SPECIFICATIONS

General

Make	Generac
Cylinder #	8
Туре	V
Displacement - in ³ (L)	543 (8.9)
Bore - in (mm)	4.49 (114.3)
Stroke - in (mm)	4.25 (108)
Compression Ratio	G18 - 10.5:1 / G26 - 9.1:1 *
Intake Air Method	Turbocharged/Aftercooled
Number of Main Bearings	5
Connecting Rods	Forged Steel
Cylinder Head	Cast Iron
Cylinder Liners	No
Ignition	High Energy
Piston Type	Aluminum Alloy
Crankshaft Type	Forged Steel
Lifter Type	Hydraulic Roller
Intake Valve Material	Steel Alloy
Exhaust Valve Material	Stainless Steel
Hardened Valve Seats	Yes
Engine Governing	
Governor	Electronic
Frequency Regulation (Steady State)	±0.25%
Lubrication System	
Oil Pump Type	Gear Driven
Oil Filter Type	Full-Flow Spin-On Cartridge

Cooling System Type Pressurized Closed Fan Type Pusher Fan Speed - RPM G18 - 2,330 / G26 - 2,386 * Fan Diameter - in (mm) 22 (559) Fuel System Natural Gas, Propane Vapor/Liquid Fuel Type Carburetor Down Draft Secondary Fuel Regulator Standard Fuel Shut Off Solenoid Standard Operating Fuel Pressure - in H₂O (kPa) 7 - 11 (1.7 - 2.7) Operating Fuel Pressure (LPL) - psi (kPa) 30 - 312 (206 - 2,151)

GENERAC

Engine Electrical System

Cooling System

System Voltage	12 VDC
Battery Charger Alternator	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

* G18 refers to all engines manufactured before August 3rd, 2018. G26 refers to all engines manufactured after August 3rd, 2018.

ALTERNATOR SPECIFICATIONS

Crankcase Capacity - qt (L)

Standard Model	K0150124Y26
Poles	4
Field Type	Revolving
Insulation Class - Rotor	Н
Insulation Class - Stator	Н
Total Harmonic Distortion	<5%
Telephone Interference Factor (TIF)	<50

G18 - 8.5 (8.0) / G26 - 9.5 (10.0) *

Standard Excitation	(Permanent Magnet)
Bearings	Single Sealed Ball
Coupling	Direct Drive
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Full Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

SG150 | 9.0L | 150 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

OPERATING DATA

DEMAND RESPONSE READY

INDUSTRIAL

GENERAC

POWER RATINGS

	G18, G2	26 - Natural Gas *	G18, G26	- Propane/Dual Fuel *
Single-Phase 120/240 VAC @1.0pf	144 kW	Amps: 600	134 kW	Amps: 558
Three-Phase 120/208 VAC @0.8pf	150 kW	Amps: 521	140 kW	Amps: 486
Three-Phase 120/240 VAC @0.8pf	150 kW	Amps: 452	140 kW	Amps: 422
Three-Phase 277/480 VAC @0.8pf	150 kW	Amps: 226	140 kW	Amps: 211
Three-Phase 346/600 VAC @0.8pf	150 kW	Amps: 181	140 kW	Amps: 169

MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip				
277/480 VAC	30%	208/240 VAC	30%	
K0150124Y26	327	K0150124Y26	250	
K0200124Y21	478	K0200124Y21	361	

FUEL CONSUMPTION RATES*

Natural Gas -	- scfh (m³/hr)	Propane Vapor	– scfh (m³/hr)	Propane Liqui	d – gph (Lph)
Percent Load	Standby	Percent Load	Standby	Percent Load	Standby
25%	668 (18.9)	25%	280 (7.9)	25%	6.7 (25.4)
50%	1,127 (31.9)	50%	430 (12.2)	50%	11.4 (43.2)
75%	1,583 (44.8)	75%	573 (16.2)	75%	15.7 (59.4)
100%	2,042 (57.8)	100%	720 (20.4)	100%	20.0 (75.7)

* Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby
Air Flow (Fan Air Flow Across Radiator)	scfm (m ³ /min)	5,598 (158.5)
Coolant Flow	gpm (Lpm)	27.5 (104)
Coolant System Capacity	gal (L)	6.3 (24.0)
Maximum Operating Air Temperature on Radiator	°F (°C)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)	See Bulletin 0199270SSD	
Maximum Radiator Backpressure	in H ₂ O (kPa)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

			Standby		
		Flow at R	ated Power scfm (m ³ /min) 343 (9.7)		
ENGINE			EXHAUST		
		Standby			Standby
Rated Engine Speed	RPM	1,800	Exhaust Flow (Rated Output)	scfm (m ³ /min)	1,206 (34.1)
Horsepower at Rated kW**	hp	229	Backpressure (Post Silencer)	inHg (kPa)	0.75 (2.54)
Piston Speed	ft/min (m/min)	1,275 (389)	Exhaust Temp (Rated Output - Post Silencer)	°F (°C)	1,440 (782)
BMEP	psi (kPa)	185 (1,277)			

* G18 refers to all engines manufactured before August 3rd, 2018. G26 refers to all engines manufactured after August 3rd, 2018.

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

Deration - Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.

Please contact a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, and DIN6271 standards. Standby - See Bulletin 0187500SSB

Demand Response - See Bulletin 10000018250

SG150 | 9.0L | 150 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

DIMENSIONS AND WEIGHTS*



GENERAC

OPEN SET (Includes Exhaust Flex) L x W x H - in (mm) 116.5 (2,959) x 49.7 (1,262) x 55.6 (1,412) Weight - Ibs (kg) 2,946 (1,336) WEATHER PROTECTED ENCLOSURE L x W x H - in (mm) 143.0 (3,631) x 50.4 (1,280) x 68.2 (1,732) Steel: 3,843 (1,743) Weight - Ibs (kg) Aluminum: 3,384 (1,535) SHALL COMPLY WITH APPLICABLE STATE AND LOCAL GOVERMENT REQUIREMENTS LEVEL 1 ACOUSTIC ENCLOSURE L x W x H - in (mm) 168.5 (4,280) x 50.4 (1,280) x 68.2 (1,732) Steel: 4,129 (1,873) Weight - Ibs (kg) Aluminum: 3,508 (1,591) Average 74dB(A) meets requirement of 78dB(A)





LEVEL 2 ACOUSTIC ENCLOSURE

L x W x H - in (mm) 143.0 (3,632) x 50.4 (1,280) x 91.7 (2,329)

Weight - Ibs (kg)

Steel: 4,321 (1,960) Aluminum: 3,592 (1,629)

* All measurements are approximate and for estimation purposes only.

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.

6 of 6

DEMAND RESPONSE READY

INDUSTRIAL



H-100 CONTROL PANEL



The Quiet-Test[™] H-100 Control Panel is a digital microprocessor electronic controller that integrates all engine and transfer switch functions into a single control system.

- Digital Controls for All Saftey Shutdowns
- Isochronous Governor Control
- Digital 3 Phase Sensing Voltage Regulator
- Sealed Digital Circuit Board
- Mates with HTS Transfer Switch and Any 2-wire Start ATS
- Alarm and Event Logging
- Built-in Diagnostics
- Internal PLC

Features

- Two 4-line x 20 Displays
- Full System Status
- 3 Phase Sensing Digital Voltage Regulator
- Remote Ports
 - RS232
 - RS485
 - CANbus
- Waterproof Connections
- Built -in PLC
- Full Range Standby Operation
 - Full System Status
 - 3 Phase AC Volts
 - 3 Phase Amps
 - kW
 - Power Factor
 - Reactive Power
 - Oil Pressure
 - Water Temperature
 - Water Level
 - Oil Temperature (Optional)
 - Fuel Pressure
 - Engine Speed
 - Battery Voltage
 - Alternator Frequency
 - Time
 - Date
 - Transfer Switch Status
 - Run Hours
 - Service Reminders
 - Trending
 - Fault History (Alarm Log)
 - I²T Function for Full Generator Protection

- Shutdowns
- Overvoltage
- Overspeed
- Low Oil Pressure
- High Coolant Temperature
- Low Coolant Level
- Remote Communications
- Configurable to NFPA 110, Level 1 or 2
- Programmable Auto Crank
- Emergency Stop
- On/Off/Manual Switch
- Not in Auto Flashing Light
- Audible Alarm for Fault Condition
- Transfer Switch Logic Communicates with HTS Transfer Switch
- Selectable Low Speed Exercise
- Temperature Range: -40° to +70°C

The generator set parameters can be manipulated and monitored without standing in front of the control panel with GenLink[®] software. The Generac H-100 control panel also monitors and controls transfer switch functions when used with the HTS transfer switch.

- Monitors Utility Voltage
- Monitors Generator Voltage
- Timer for Line Interrupt Delay
- Timer for Engine Warmup
- Timer for Minimum Engine Run Time
- Timer for Return to Utility Position
- Timer for Engine Cooldown
- Built-in Exerciser Timer (7 Day)
- Additional 2-wire Start Controls for Any 2-wire Transfer Switch



H-100 CONTROL PANEL

Typical Control Connection



21 LIGHT REMOTE ANNUNCIATOR AND REMOTE RELAY PANEL

Model 0054650 Gray Remote Annunciator Panel without Relays

Model 0054660 Gray Remote Relay Panel without LEDs and Keypad (Relays Only) Model 0054640 Gray Remote Annunciator Panel with 8 Relays Model 0056370 Tan Flush Mount Enclosure without Annunciator Model 0066950 Gray Flush Mount Enclosure without Annunciator



Description:

The Remote Annunciator Panel provides remote monitoring and annunciation of up to 18 generator parameters using LEDs located on the annunciator keypad. It also provides two system level warnings which are System Ready and Communications OK.

The Relay Panel has up to 8 selectable functions on form A relays; multiple relay panels can be connected for all 18 generator parameters.

The specific faults can be selected using either the DIP switches located on the annunciator circuit board or through a computer via the RS232 connection on the circuit board. All relays are energized on power up and open during a fault condition.

GENERAC

Communication is via a RS485 serial data link and power is supplied by the generator battery (+12 VDC or + 24 VDC).

The Remote Annunciator Panel complies with NFPA 99 and NFPA 110.

Environmental Specifications:

Operating Temperature	-25 °C to 60 °C
Humidity	
Power Supply	
Power Usage	
Communication Line	
Maximum Cable Length	
Relay Output	One NO Contact (Energized when Annunciator is Powered and No Faults are Present)
Relay Contact Rating	
Enclosure Rating	NEMA 1
Alarm Horn (Remote Annunciator Panels Only)	

INDUSTRIAL

POWER



21 LIGHT REMOTE ANNUNCIATOR AND REMOTE RELAY PANEL

Function	Color	Alarm	Latched
Pre-Low Oil Pressure	Yellow	Yes	Yes
Pre-High Water Temperature	Yellow	Yes	Yes
Pre-Low Water Temperature	Yellow	Yes	Yes
Pre-Low Fuel	Yellow	Yes	Yes
Battery Charge AC Fail	Yellow	Yes	No
Low Battery Voltage	Yellow	Yes	No
High Battery Voltage	Yellow	No	No
Not in Auto	Red	Yes	No
RPM Sensor Loss	Red	Yes	Yes
Overcrank	Red	Yes	Yes
Overspeed	Red	Yes	Yes
Low Oil Pressure	Red	Yes	Yes
High Water Temperature	Red	Yes	Yes
Low Water Level	Red	Yes	Yes
Emergency Stop	Red	Yes	No
Gen Running	Yellow	No	No
Gen Power (ATS)	Yellow	No	No
Line Power (ATS)	Green	No	No
Systems Ready	Green	Yes	No
Communications OK	Green	Yes	No
Spare	Green	No	No

Spare Keypad Switch can be used to implement a remote start function (Model 0054640 only).

Surface Mount Annunciator

The 21 Light Annunciator can hount to a flat sufface with connections through the 0.812 inch diameter knockout on the back surface or through 0.812 inch diameter knockouts on sides as shown.





This Flush Mount Box is recessed into the wall opening and the surface mount annunciator mounts to the (4) 4 mm screw holes on the back surface. After wire connections are made the front annunciator cover is attached.

Dimensions are in inches.

GENERATOR CONTROLS

ALTERNATOR DATA SHEET K0150124Y21

General Characteristics

Voltages (V)	208/240 and 480	Number of Leads	12
Frequency (Hz)	60	Winding Type	Reconnectable
Phases	3	Air Flow (CFM)	1,660
Speed (RPM)	1,800	Total Harmonic Distortion (%)	<5
Excitation System	PMG	Largest Single Harmonic Value (%)	<3.5
Insulation Class	Н	Telephone Interference Factor (TIF)	<50
Winding Pitch	2/3	Reference Part Number	0L3716E01R

Ratings at 0.8 pf based on 40°C Ambient

	80°C	Rise	105°(C Rise	120°(C Rise	150°C	C Rise
voltage (v)	kW	kVA	kW	kVA	kW	kVA	kW	kVA
208/240	115	144	138	172	150	187	160	200
480	115	144	138	172	150	187	160	200

Base Data at 480V, 187 kVA, 1,800 RPM, 60 Hz, 3Ø

Description	Value
Stator Resistance, Line to Neutral, High Wye Connection $\left(\Omega\right)$	0.0242
Rotor Resistance (Ω)	0.9400
Exciter Stator Resistance - PMG (Ω)	6.4250
Exciter Rotor Resistance - $PMG(\Omega)$	0.2060
Excitation Winding Resistance - PMG (Ω)	1.4886
Xd, Direct Axis Synchronous Reactance (p.u.)	3.360
X2, Negative Sequence Reactance (p.u.)	0.250
X0, Zero Sequence Reactance (p.u.)	0.080
X'd, Direct Axis Transient Reactance (p.u.)	0.210
X"d, Direct Axis Subtransient Reactance (p.u.)	0.190
Xq, Quadrature Axis Synchronous Reactance (p.u.)	1.610
T'd, Direct Axis Transient Short Circuit Time Constant (s)	0.099

Description	Value
T"d, Direct Axis Subtransient Short Circuit Time Constant (s)	0.016
T'do, Direct Axis Transient Open Circuit Time Constant (s)	1.950
Ta, Short Circuit Time Constant of Armature Winding (s)	0.023
Phase Sequence CCW-NDE	T1, T2, T3
Voltage Balance, L-L or L-N (%)	2.5
Deviation Factor (%)	<7
High Wye Connection, Sustained 3Ø Short Circuit Current (%) - PMG	300
X/R	9
Short Circuit Ratio	0.53
Heat Rejection (BTU/hr) - 100% Rated Load, 480V, 0.8pf, 120°C Temperature Rise	75,130

Reference: Mil-STD-705B All Ratings are Nominal

ALTERNATOR DATA SHEET K0150124Y21

skVA

	10%	15%	20%	25%	30%	35%
480V @ 0.3PF	77	118	166	222	290	359
480V @ 0.6PF	90	136	188	249	326	393
208/240V @ 0.3PF	59	91	127	167	220	271
208/240V @ 0.6PF	68	102	142	185	244	299

Efficiencies

*Rated Power	480V @ 0.8 PF	480V @ 1.0 PF	208/240V @ 0.8PF	208/240V @ 1.0 PF
20%	76.4	77.5	78.8	79.7
40%	83.5	85.1	84.6	86.2
60%	86.5	89.1	86.7	89.1
80%	87.4	90.5	87.2	90.0
100%	87.2	91.0	86.5	89.9

*Rated Power value is rating kW at 120°C Winding Temperature Rise and 0.8pf

LOG LOG Decrement Curve



Balanced 3-Phase Short Circuit Decrement & Thermal Damage Current Limit Curves

208V Decrement Curve 480V Decrement Curve 240V Decrement Curve 208V Thermal Damage Curve 480V Thermal Damage Curve 240V Thermal Damage Curve •••••• 208V Control System Shutdown - 480V Control System Shutdown • 240V Control System Shutdown



GENprotect ™ Seamless Protection for Industrial Power Generators

GENprotect Operation

The design choice of an onsite power system using a Generac Industrial Power Generator assures your emergency power source is protected from unexpected power distribution faults. Typically, a generator will include some type of over-current device, such as a circuit breaker, or be protected by inherent design with the controller protecting the alternator through a protection algorithm. Generac's GENprotect generator protection system monitors the system current output and protects the alternator with extended security against fault scenarios that could occur within the site's downstream distribution system.

It is a common misconception that the alternator's main circuit breaker protects the alternator from a short circuit event. The main output breaker protects the cabling and provides a convenient disconnect. The characteristic trip curve for the industry standard thermal magnetic breaker (MCCB, molded case thermal magnetic or solid state) does not coordinate with the thermal damage limitation for an on-site generator. If circuit breakers are used for generator protection, a solid-state circuit breaker with full adjustments (Long Time, Short Time and Instantaneous, LSI) is required to coordinate the breaker protection curve within the generator thermal damage curve. Historically, this limitation was often accepted in system design since failures of the main generator feeder are extremely rare. Most short circuit events happen at a branch circuit, equipment level, where the fault is easily cleared by the smaller down stream breakers.

Given the mission critical nature of today's back-up power applications, it is more desirable to protect the system against even relatively rare failure modes. As generator controllers have become more powerful it is feasible for manufactures to supply coordinated short circuit protection integral to the generator control system, negating the need for a main-line circuit breaker.

Generac's GENprotect alternator protection algorithm monitors the generator output. If this monitoring senses short circuit current in excess of rated amps, GENprotect steps in to provide a controlled and safe approach to breaker coordination and alternator protection. GENprotect first limits the alternator short circuit current level to 300%. By limiting the available fault current, GENprotect extends the time the alternator can maintain fault current resulting in consistent breaker coordination. Without this functionality a line to neutral fault may be at 800% of rated current and need to be cleared within 1.4 seconds. The second function GENprotect performs is I2T thermal protection for the alternator. Since a short circuit event can heat the alternator so rapidly, it is not possible to protect the alternator by monitoring temperature. Instead GENprotect calculates the heat energy of the fault current. When this energy reaches the limits of NEMA MG1, GENprotect trips the generator off-line. This configuration ensures the alternator is protected and the power system is ensured 10 seconds of 300% fault current for breaker coordination.

DESCRIPTION

- GENprotect is an alternator protection algorithm approved by UL.
- Protects alternator from damage due to shorts and electrical faults.
- · Provides breaker coordination and alternator protection.
- Allows for use of multiple circuit breaker choices, including "no" breaker.





GENprotect ™ Seamless Protection for Industrial Power Generators



Current in Multiplier of Genset Rating

The above Figure shows the Generac GENprotect thermal protection curve for use in protection and coordination studies. The alternator Thermal Damage Curve is shown just to the right of the GENprotect protection curve. If the alternator load is greater than the thermal damage protection curve for the alternator, the generator set will trip off-line. For example, an overload current of 110% for 75 seconds causes an overload alarm and will trip the generator off-line, shutting down the engine. GENprotect will provide generator protection over a full range of time and current, from instantaneous faults to overloads lasting several minutes. An advantage of GENprotect over a MCCB is that GENprotect allows for downstream breakers to clear faults without tripping the generator off-line, providing selective coordination with the first level of downstream breakers.



ALTERNATOR STRIP HEATER 120 VAC



120 VAC FROM CUSTOMER CONNECTION TB4 OR LOAD CENTER (IF EQUIPPED)



WIRING DIAGRAM

Ð

m

Ь

2.44"

7.50



INDUSTRIAL GENSET - BATTERY INDEX

• Warranty by Exide Corp. • Exide e-mail: tbgna@exide.com • 800-782-7848 National Hot line

INDUSTRIAL SPARK-IGNITED GENSETS - AVAILABLE BATTERIES GENERAC PART # 058208 077483 058665 061119 061104 BT0015A02 System Battery Engine Voltage Quantity (Group 24F) (Group 26) (Group 27F) (Group 31) (Group 8D) (Group 8D) G2.4 12 1 Х G4.5 12 1 Х Х G9.0 12 1 Х X 24 2 G14.2 Х G21.9 24 2 Х G25.8 24 2 Х G33.9 24 4 Х 24 4 Х Х G49.0

GENERAC PART #

INDUSTRIAL DIESEL GENSETS - AVAILABLE BATTERIES

Engine	System Voltage	Battery Quantity	058665 (Group 27F)	061119 (Group 31)	061104/BT0015A00 (Group 8D)	BT0015A02 (Group 8D)		
D2.2 Perkins	12	1	Х	Х				
D3.3 Perkins	12	1		Х				
D4.5 FPT	12	1		Х				
D6.7 FPT 100, 130kW	12	1 or 2 ⁺		Х				
D6.7 FPT 150, 175kW	12	2 [†]		Х				
D8.7 FPT	24	2		Х				
D10.3 FPT	24	2		Х	Х			
D12.9 FPT	24	2		Х	Х			
D12.5 Perkins	24	2			Х			
D15.2 Perkins	24	2			Х			
D16.0 Volvo	24	2		Х	Х			
D18.1 Perkins	24	2			Х			
D30.6 Perkins	24	2			Х	Х		
D33.9 MHI	24	2			Х	Х		
D37.1 MHI	24	4			Х	Х		
D49.0 MHI	24	4			Х	Х		
D65.4 MHI	24	4			Х	Х		

			DIMENSIONS (in) NOMINAL			
Part Number	Group Number*	Nominal CCA @ 0° F	L	W	Н	
058208	24F	525	6.75	10.63	9.00	
077483	26	525	6.75	8.25	7.75	
058665	27F	700	6.75	12.50	9.00	
061119	31	925	6.75	13.00	9.40	
061104/ BT0015A00	8D	1,200	11.00	20.80	10.00	
BT0015A02	8D	1,400	11.00	20.80	10.00	

All batteries are 12V, 6 cell construction, lead calcium type. For 24V systems, batteries are wired in series.

X Battery available with electrolyte and installed in genset.

† Single or dual-paralleled battery options are available on 100 and 130kW. Single-battery option not available on 150 and 175kW.

* BCI Group Size reference.

1 OF 1



GENERATOR ENCLOSURES



DESCRIPTION

GENERAC POWER SYSTEMS' generator enclosures provide year-round weather protection for your power equipment. Engineered with functionality and value in mind, the enclosure design benefits are unique in that the enclosures utilize dimensionally matched components for either a weather protective configuration or a sound attenuated/acoustic configuration. With common components used between design, modification and on-site upgrades can be accomplished with ease.

The enclosure design offers several benefits over the "standard enclosures" of other manufacturers. Generac's enclosures have been created with the goal of maximizing the customer's product performance satisfaction while maintaining the functionality of reducing exterior noise levels and discouraging product tampering.

Although others may require a "premium" for a self-enclosed exhaust system, rugged steel panel construction or protective polyethylene washers under all exterior panel fasteners, Generac includes these and several other features on every enclosure configuration. Be sure to compare. Generac Enclosures offer additional design enhancement extras that other "standard enclosures" do not.



GENERATOR ENCLOSURES





GENERATOR ENCLOSURES

FEATURES:	BENEFITS:
Dimensional matching of acoustic and non-acoustic enclosure designs	Reduces variation in fuel tank pricing, inventory; removes need to change out fuel tank or retrofit
Standardized enclosure components *	Ease of retrofit or upgrade to acoustic system; reduced parts inventory, costs
Enclosure mounted directly to unit baseframe	Simplified delivery and installation with enclosure and unit in single component design
Electrostatically painted panels	Maximum protection from weather elements
12 or 14 gauge steel based on kW rating	Maximum sound attenuation, protection and product life
Aluminum Enclosure optional	Prevents corrosion in coastal regions
Stainless steel door latch and hinge hardware	Provides extended component life; maximum protection against rusting
Stainless steel door latch strike plate	Maximum protection against enclosure paint damage from door latch pin
Door hinges utilize slip-pin design	Provides quick door removal for full-unit access
Polyethylene gasketing under door hinges	Additional protection for enclosure paint finish
Keyed door latches	Protection for equipment and personnel
Large removable access doors	Ease of maintenance
Relocation of access doors	Provides improved access to MLCB on all units
Redesigned door gasketing	Improved sealing quality from sound and weather elements
Weather resistant aluminum roof design with drip ledge	Provides optimum moisture/rain runoff from unit
Cabled and gasketed radiator access cover	Provides improved radiator access and additional protection from weather elements
Acoustic roof panels manufactured with mechanical retention pins	Increased acoustic foam retention within unit
Polyethylene washers under all panel fasteners	Additional paint finish protection from stainless steel fastener
Internally fastened enclosure panels (where possible)	Provides streamlined unit appearance
Additional roof panel stiffener	Added overall compartment rigidity and acoustic foam panel retention
Self-enclosed exhaust system	Provides safe unit operation; no enclosure hot spots; streamlined unit appearance
Discharge air duct has been designed with minimal fasteners	Ease of removal and access to exhaust system
Stainless steel exhaust band clamps	Provides extended component life; ensures proper exhaust seal
Drain holes within air ducts	Enables maximum water run-off
Rodent-proof, tamper proof enclosure design	Safety and security for personnel and equipment
Redesigned baseframe lifting lugs	Ease of unit relocation; prevents compartment damage from lifting straps
Up to 200 MPH wind kit options (Contact Factory for Availability)	Meets locally enforced wind requirements

* Consult Generac Power Systems, Inc. for installation drawings for specific configurations and dimensions.



RhinoCoat[™]







Generac's RhinoCoat™ finish system provides superior durability as a standard for all Generac Industrial enclosures, tanks and frames.*

Testing Standards

Generac's RhinoCoat[™] finished surfaces are subjected to numerous tests. These include:

٠	ASTM D - 1186 - 87	2.5+ MIL Paint Thickness
•	ASTM D - 3363 - 92a	Adequate Material Hardness
•	ASTM D 522 - B	Resistant to Cracking
•	ASTM D 3359 - B	Exceptional Adhesion
•	ASTM B117 D 1654	
٠	ASTM D1735 D 1654	Resistant to Humidity
•	ASTM 2794 93 (2004)	Exceptional Impact Resistance
٠	SAEJ1690 - UV Specifications	UV Protection
	·	

In addition to the testing standards above, Generac adds the following test requirements more specific to generator applications:

- Resistant to Typical Oils
- · Resistant to Typical Fuels
- Resistant to Typical Antifreeze
- · Resistant to Distilled Water

Primary Codes and Standards



*RhinoCoat™ powder coat paint is durable and corrosion resistant however it is not a rust preventative. Generac pretreats all powder coated parts to assist with resistance to corrosion.



125 A LOAD CENTER



ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS PRIOR TO INSTALLATION. DESCRIPTION

The 125 AMP Load Center is a unit-mounted distribution panel utilized for optional equipment on all Generac generators utilizing H-100, PM-GC, or PM-PC control systems. This main lug load center includes all of the circuit breakers required for the coolant heater, battery charger, and other factory-installed AC loads within the generator set. The load center also serves as a convenient connection point for the customer's utility feed for AC loads. All breakers are labeled for specific load circuits.

SPECIFICATIONS

- Siemens Part Numbers:
- NEMA 1: E0816ML1125SCU (Applies to Open Gensets)
- NEMA 3R: W0816ML1125CU (Applies to Enclosed Gensets)
- 125 AMP Main Lugs EQ Load Center
- 100,000A IR
- 1Ø, Copper Bus
- UL Listed
- Siemens QP Type Circuit Breakers
- Maximum of 8 Single Pole Breakers
- Maximum of 4 Two Pole 240 V Breakers
- · Mounted on Genset Frame Near Control Panel/Display Unit*

	H	W	D
NEMA 1	14.75	12.375	3.87
NEMA 3R	14.75	12.128	4.25

DIMENSIONS (IN)

*Please refer to applicable generator set installation drawing for load center location details.



EATON CIRCUIT BREAKERS 100% Rated Thermal-Magnetic

AMPS	VOLTS	ACCESSORIES	EATON PART #	SERIES	FRAME	GENERAC PART#
70		No Accessories	JGE3070FAGC			0H9302TH00
70		Shunt Trip & Aux. Contacts	JGE3070FAGCA2 **	_		0H9302TH ***
00		No Accessories	JGE3080FAGC			0J0841TH00
80		Shunt Trip & Aux. Contacts	JGE3080FAGCA2 **			0J0841TH ***
00	1	No Accessories	JGE3090FAGC			0J0837TH00
90		Shunt Trip & Aux. Contacts	JGE3090FAGCA2 **			0J0837TH ***
100	1	No Accessories	JGE3100FAGC			0H9314TH00
100		Shunt Trip & Aux. Contacts	JGE3100FAGCA2**			0H9314TH***
105		No Accessories	JGE3125FAGC			0J0231TH00
125		Shunt Trip & Aux. Contacts	JGE3125FAGCA2**			0J0231TH***
150	1	No Accessories	JGE3150FAGC			0H9315TH00
150		Shunt Trip & Aux. Contacts	JGE3150FAGCA2**			0H9315TH***
175		No Accessories	JGE3175FAGC			0H9316TH00
1/5		Shunt Trip & Aux. Contacts	JGE3175FAGCA2**			0H9316TH***
000		No Accessories	JGE3200FAGC			0J0232TH00
200		Shunt Trip & Aux. Contacts	JGE3200FAGCA2 **	<mark>_</mark>		0J0232TH ***
005	1	No Accessories	JGE3225FAGC			0H9317TH00
225		Shunt Trip & Aux. Contacts	JGE3225FAGCA2 **			0H9317TH ***
050	1	No Accessories	JGE3250FAGC			0H9318TH00
250		Shunt Trip & Aux. Contacts	JGE3250FAGCA2**			0H9318TH***
200	1	No Accessories	LGE3300FAGC			0H9319TH00
300		Shunt Trip & Aux. Contacts	LGE3300FAGCA2**			0H9319TH***
050		No Accessories	LGE3350FAGC			0H9320TH00
350	600	Shunt Trip & Aux. Contacts	LGE3350FAGCA2**			0H9320TH***
400]	No Accessories	LGE3400FAGC			0H9321TH00
400		Shunt Trip & Aux. Contacts	LGE3400FAGCA2**		LG-FRAME	0H9321TH***
500	1	No Accessories	LGE3500FAGC			0H9323TH00
500		Shunt Trip & Aux. Contacts	LGE3500FAGCA2**			0H9323TH***
600		No Accessories	LGE3600FAGC			0H9324TH00
000		Shunt Trip & Aux. Contacts	LGE3600FAGCA2**			0H9324TH***
700*]	No Accessories	CMDLB3800T33W			0H9325TH00
700"		Shunt Trip & Aux. Contacts	CMDLB3800T33WA13S02			0H9325THB0
000*		No Accessories	CMDLB3800T33W	0		0H9326TH00
000		Shunt Trip & Aux. Contacts	CMDLB3800T33WA13S02			0H9326THB0
0001		No Accessories	NGS312033MCZ08			0H9327TH00
900		Shunt Trip & Aux. Contacts	NGS312033MCA12S03Z08			0H9327THB0
1 0001		No Accessories	NGS312033MCZ08			0H9328TH00
1,000	1,000 ¹ 1,200 ¹	Shunt Trip & Aux. Contacts	NGS312033MCA12S03Z08		ING-FRAIVIE	0H9328THB0
1 2001		No Accessories	NGS312033MCX23Y08			0H9329TH00
1,200		Shunt Trip & Aux. Contacts	NGS312033MCA12S03Y08	C		0H9329THB0
1 /001	1,400 ¹	No Accessories	RGH316033MCY22	G		0H9360TH00
1,400		Shunt Trip & Aux. Contacts	RGH316033MCA12S21Y22			0H9360THB0
1 6001		No Accessories	RGH316033MCY22			0H9361TH00
1,000		Shunt Trip & Aux. Contacts	RGH316033MCA12S21Y22			0H9361THB0
2 0001		No Accessories	RGH320033MC		[0H9367TH00
2,000	2,0001	Shunt Trip & Aux. Contacts	RGH320033MCA12S21			0H9367THB0
	*LS-1	type electronic trip breaker RMS 310 trip unit	¹ LS-type electronic trip breaker equipped with RMS	S 310+ trip unit.		

To finish part numbers with either a ****** or ******* Please see data below:

** 12V System, Use - <u>S4</u>

24V System, Use - <u>S6</u>

*** 12V System, use <u>BO</u> 24V System, use <u>CO</u>



BATTERY CHARGER 2.5 amp and 10 amp



Battery charger shown from inside of control panel enclosure. Connections are made via an attached harness.

The Generac 2.5 amp 12 volt and 10 amp 12/24 volt battery chargers are designed to work with Generac Industrial Controls to provide the ultimate in automatic battery voltage maintenance.

The 2.5 amp charger is self-regulating and produces instantaneous output current adjustments to keep the battery charged to an optimum level. Battery voltage is read on the control panel digital display.

The 10 amp charger has automatic float and equalize control. It precisely monitors the battery's voltage and automatically activates the correct charging mode. The charge rate is limited and controlled to efficiently and safely maintain ideal battery levels under varying conditions.

The equalize system uses a control circuit to limit charging current to 10 amps. When battery voltage drops below a preset level, charging current increases to 5 amps and then to the 10 amp charge rate if needed. When the battery reaches maximum charge, the charger switches to float mode to supply just enough current to maintain the battery at or above 13/26 volts. Battery voltage and charging current are read at the control panel digital display.

Specifications	2.5A	10A
Nominal Input	120 VAC	120 VAC
Operating AC Line Voltage Range	108 to 132 VAC	108 to 132 VAC
Input AC Line Frequency	50/60 Hz	50/60 Hz
Battery Fuse	N/A	15 A
Nominal Charge Rate	2.5 A	10 A
Equalize Voltage	N/A	13.8/27.6 V
Float Voltage	13.4 V	13.0/26.0 V
Current @ Equalize to Float Transition	N/A	5 A
Battery Under-voltage shutdown	N/A	11/22 V
LED Indicators	No	Yes
AC Line Voltage	N/A	Green LED
Battery Connected and Charging	N/A	Yellow LED
Battery Current Drain	30 mA	30 mA
AC Line Connection	Connector Plug	Connector Plug
Battery Connection	Connector Plug	Connector Plug
Control Connection		AC Power Fail Form Relay Form C 2 A Rating
CUL Recognized	Yes	Yes
NFPA 110 Compliant	No	Yes
AGM Compatible	No	Yes
UL1236	No	Yes
CSA 22.2 No. 107	No	Yes





EATON CIRCUIT BREAKER DATA LUG INFORMATION

			Standard Lug		
Amps	Series	Frame	Eaton Part #	Wire (QTY) Size	
15-70	С	G	-	(1) #10-1/0	
15-100	С	F	3T100FB	(1) #14-1/0	
125-200	С	F	3TA225FD	(1) #4-4/0	
225	С	F	3TA225FDK	(1) #6-300MCM	
250	С	J	TA250KB	(1) #4-350MCM	
300	С	К	TA350K	(1) 250-500MCM	
350-400	С	К	3TA400K	(2) 3/0-250MCM	
450-500	С	L	TA602LD	(2) 3/0-350MCM	
600	С	L	3TA603LDK	(2) 400-500MCM	
700-800	С	М	TA800MA2	(3) 3/0-400MCM	
900-1,000	С	N	T1200NB3	(4) 3/0-400MCM	
1,200	С	N	TA1201NB1	(3) 500-750MCM	

Eaton Series C Circuit Breaker Lugs

Eaton Series G Circuit Breaker Lugs

			Standard Lug		
Amps	Series	Frame	Eaton Part #	Wire (Qty) Size	
50-250	G	JG	TA250FJ	(1) #8-350MCM	
300-600	G	LG	3TA632LK	(2) #2-500MCM	
900-1,200	G	NG	TA1201NB1	(3) 500-750MCM	
1,400-1,600	G	RG	G T1600RD (
2,000	G	RG	Lugs Not Included		
2,500	G	RG	Lugs Not Included		



ELECTRONIC GOVERNOR Spark-Ignited Engines



Generac's electronic isochronous governor systems are standard on all Spark-Ignited gensets utilizing Generac's Digital Control Platforms.

- · Isochronous Speed Regulation
- ±0.25% Steady State Regulation
- Factory Installed and Adjusted
- Fully Adjustable
- Quiet-Test[™] Low-Speed Exercise Capability
- Fast Response
- High Reliability
- · Environmentally Sealed

ACTUATOR

Die cast enclosure housing the throttle plate and the gear-driven rotary actuator with the interior components sealed against dust, dirt and moisture. The gear drive is directly connected to the throttle plate for fast and precise control. Safety spring-return to a closed position upon loss of power.

Design	Bosch
Туре	Electronically Actuated Throttle Valve
Operating Voltage	
Response Time	
Operating Temperature Range	-40°F to 284°F
Output	

CONTROLLER

The governor driver module is located in the generator control panel. A sealed unit with waterproof connections and a feedback circuit from the actuator for throttle plate position. Generac software controls speed governing, and is fully adjustable.

The Generac electronic governor system applies to all spark-ignited gensets with Generac's Digital Control Platforms.



COOLANT HEATER OPTION 1500 WATT, 120VAC

SPECIFICATIONS:

VOLTAGE: 120VAC HEAT POWER: 1500W FIXED THERMOSTAT: 60°-80°F HEATING ELEMENT: INCOLOY 800 MAXIMUM PRESSURE: 90 PSI (620 kPa) PLUG NEMA STD: 5-15P







DISTANCE: 7 METERS

DISTANCE: 7 METERS

LEVEL 1 SOUND ATTENUATED ENCLOSURE G9.0L Generac, SG/MG150

60Hz NO-LOAD, dB(A)

MICROPHONE	OCTAVE BAND CENTER FREQUENCY (Hz)									
LOCATION	31.5	63	125	250	500	1,000	2,000	4,000	8,000	dB(A)
FRONT	37	53	57	62	66	66	59	52	45	70
RIGHT	38	55	59	63	63	64	57	52	45	69
REAR	39	58	64	59	61	64	52	47	42	69
LEFT	39	55	61	63	63	61	56	51	45	68
AVERAGE	38	55	60	62	63	64	56	50	44	69

60Hz FULL-LOAD, dB(A)

OCTAVE BAND CENTER FREQUENCY (Hz) MICROPHONE LOCATION 31.5 1,000 2,000 4,000 8,000 dB(A) FRONT RIGHT REAR LEFT AVERAGE



- All positions at 23 feet (7 meters) from side faces of generator set.
- Test conducted on a 100 foot diameter asphalt surface.
- Sound pressure levels are subject to instrumentation, installation and testing conditions.
- Sound levels are $\pm 2 \text{ dB}(A)$.

1 OF 1





Contraction Contraction SARE IN MILLIMETERS INCRESS ITILE ITILE NELIGENT & CENTER OF GRAVITY SOLIDATION S
PRAWING CREATED FROM PROVEN 30 FILE. ECO MODIFICATION T APPLIED TO SOLID MODEL ONLY APPLIED TO SOLID MODEL ONLY

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SH 3/3 REV C WINDCHILL VERSION

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4



























P: (262) 544-4811 © 2019 Generac Power Systems, Inc. All rights reserved. All specifications are subject to change without notice.

Part No. 0191120SSD Rev. E 11/19/19



REMOTE

2. TB4 Max Wire Size: #10 AWG, Recommended Tightening Torque: 14 LB-IN 3. TB1, TB2, TB9 & RB3 Max Wire Size: #14 AWG, Recommended Tightening Torgue: 12 LB-IN

Notes:

5A at 30VAC/30VDC

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AUX 4

H-PANEL CONTROL INTERCONNECTIONS

- 4. Refer to H-Panel Manual for Instructions on Enabling HTS Transfer Switch. Refer to HTS Transfer Switch Manual for Dip Switch Settings for Multiple HTS Application
- 5. Connect the RS-485 Overall Shield at Genset Connection Terminal Only

RB3

 \otimes Ø

AUX 3

Ν2

E2 E3 183

GTS Transfer Switch

N1

Τ1 Τ2 NЗ

ΤЗ

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AUX 2

RELAY PCB



High Voltage Connection Panel





ENGINE FUSED

DC

RUN

GND



Certification of Quality

Generac Power Systems certifies that the products we manufacture have been built and tested in accordance with strict internal and external standards for quality. Our quality management system has been registered with the internationally recognized ISO 9001:2008 standard and our products comply with external standards that include, but are not limited to, CSA, NEMA, EGSA, ISO, and UL.

The Generac Quality Management System (GQMS) ensures the highest standards of quality at every level of production, from raw materials to the finished product. This includes receiving inspection, in-process checks, product and process audits, testing, final inspections, and shipping standards.

Tests of our products are performed in accordance with our internal procedures and controlled through the GQMS to ensure accuracy and effectiveness. The testing process and product designs comply with external standards which may include, but are not limited to: ISO 8528-5, ISO 3046, NFPA 99, NFPA 110, BS 5514, SAE J1349, and DIN 6271.

Generac Power Systems has over one million square feet of manufacturing space and over 2000 employees dedicated to designing and manufacturing power generation equipment in our multiple State of Wisconsin, USA factories. All of our installed and mobile generators are built with pride by our skilled American workforce to ensure our customers receive the quality that they expect from Generac.

We are committed to producing quality products for both our internal and external customers. We will continuously improve our processes and diligently measure all aspects of our business.

Daniel Waschow

Vice President of Quality Generac Power Systems, Inc. Waukesha, Wisconsin USA
Generac Power Systems 2 Year (2B) Limited Warranty for **Industrial Standby Generators**

For the period of warranty noted below, which begins upon the successful start-up and/or on-line activation of the unit, Generac Power Systems, Inc. "Generac" warrants that its Generator will be free from defects in material and workmanship for the items and period set forth below. Generac will, at its discretion, repair or replace any part(s) which, upon evaluation, inspection and testing by Generac or an Independent Authorized Service Dealer. Emissions components are excluded from coverage under this extended warranty. Emissions warranty coverage is detailed in a separate emissions warranty.

Warranty Coverage: Warranty coverage period is for Two (2) years or two-thousand (2,000) hours, whichever occurs first.

Warranty Coverage in Year(s): 1	Warranty Coverage in Year(s): 2		
Parts, Labor and Limited Travel	Limited Parts Only		

Limited Gearbox Coverage:

Year(s): 1-5 Coverage	Year(s): 6-10 Coverage
Limited Parts and Labor	Limited Parts Only

- Guidelines:
- 1. Unit must be registered and proof of purchase available.
- 2. Any and all warranty repairs and/or concerns must be performed and/or addressed by an Independent Authorized Service Dealer, or branch thereof. Repairs or diagnostics performed by individuals other than Independent Authorized Service Dealers not authorized in writing by Generac will not be covered
- 3. This Warranty is transferable between ownership of original install site.
- 4. Generac supplied engine coolant heaters (block-heaters), heater controls and circulating pumps are only covered during the first year of the warranty provision.
- 5. Generac may choose to repair, replace or refund a piece of equipment in its sole discretion.
- 6. Enclosures are warranted against rust for the first year of ownership only. Damage caused after receipt of generator is the responsibility of the owner and is not covered by this warranty. Nicks, scrapes, dents or scratches to the painted enclosure should be repaired promptly by the owner.

The following will NOT be covered by this warranty:

- Costs of normal maintenance (i.e. tune-ups, associated part(s), 1. adjustments, loose/leaking clamps, installation and start-up).
- 2. Damage/failures to the generator and/or transfer switch system
- caused by accidents, shipping, handling, or improper storage. Damage/failures caused by operation with improper fuels, speeds, loads or installations other than what's recommended 3. or specified by Generac Power Systems.
- Damage to the generator and/or transfer switch due to the use of non-Generac parts and/or equipment, contaminated fuels, oils, coolants/antifreeze or lack of proper fuels, oil or coolants/ antifreeze.
- 5. Failures due to normal wear and tear, accident, misuse, abuse, neglect, improper installation, improper sizing, or rodent, reptile, and/or insect infestation.
- Rental equipment used while warranty repairs are being performed and/or any extraordinary equipment used for removal and/or reinstallation of generator (i.e. cranes, hoists, lifts, et. al.).
- 7. Planes, ferries, railroad, buses, helicopters, snowmobiles, snow cats, off-road vehicles or any other mode of transport deemed not standard by Generac.

- 7. Warranty only applies to permanently wired and mounted units. Damage to any covered components or consequential damages 8.
- caused by the use of a non-OEM part will not be covered by the warrantv
- 9. Proof of performance of all required maintenance must be available
- 10. Travel allowance is limited to 300 miles maximum and seven and one half (7.5) hours maximum (per occurrence, whichever is less) round trip from the nearest Independent Authorized Service Dealer. Any additional travel required will not be covered.
- 11. Engines, driven components and fuel tanks used in Generac's standby power products system can carry a separate manufacturer's (OEM) warranty (the "OEM Warranties"), unless otherwise expressly stated. OEM Warranties are in addition to this Warranty. All warranty claims for defects in material and/or workmanship on Generac product OEM components, may be directed through the OEM distributor/dealer network. OEM Warranties may vary and are subject to change. Generac shall have no liability under OEM warranties.
- 8. Products that are modified or altered in a manner not authorized by Generac in writing.
- 9. Starting batteries, fuses, light bulbs, engine fluids and any related labor.
- 10. Steel enclosures that rust as a result of improper installation, location in a harsh or salt water environment, or are scratched where the integrity of applied paint is compromised
- Units sold, rated or used for "Prime Power", "Trailer Mounted" or "Rental Unit" applications as defined by Generac. Contact an Independent Authorized Service Dealer for definitions.
- 12. Shipping costs associated with expedited shipping.
- 13. Additional costs for overtime, holiday or emergency labor costs for repairs outside of normal business hours.
- Any incidental, consequential or indirect damages caused by defects in materials or workmanship, or any delay in repair or replacement of the defective part(s).**15.** Failures caused by any act of God or external cause including
- without limitation, fire, theft, freezing, war, lightning, earthquake, windstorm, hail, water, tornado, hurricane, or any other matters which are reasonably beyond the manufacturer's control.

THIS WARRANTY SUPERSEDES ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. SPECIFICALLY, GENERAC MAKES NO OTHER WARRANTIES AS TO THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ANY IMPLIED WARRANTIES WHICH ARE ALLOWED BY LAW, SHALL BE LIMITED IN DURATION TO THE TERMS OF THE EXPRESS WARRANTY PROVIDED HEREIN. SOME JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. GENERAC'S ONLY ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARKANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. GENERAC'S ONLY LIABILITY SHALL BE THE REPAIR OR REPLACEMENT OF PART(S) AS STATED ABOVE. IN NO EVENT SHALL GENERAC BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, EVEN IF SUCH DAMAGES ARE A DIRECT RESULT OF GENERAC'S NEGLIGENCE. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU ALSO HAVE OTHER RIGHTS UNDER APPLICABLE LAW.

FOR AUSTRALIA ONLY: Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. FOR NEW ZEALAND ONLY: Nothing in this warranty statement excludes, restricts or modifies any condition, warranty right or remedy which pursuant to the New Zealand Legislation (Commonwealth or State) including the Fair Trading Practices Act of 1986 or the Consumer Guarantees Act

1993 ("CGA") applies to this limited warranty and may not be so excluded, restricted or modified. Nothing in this statement is intended to have the effect of contracting out of the provisions of the CGA, except to the extent permitted by that Act, and these terms are to be modified to the extent necessary to give effect to that intention. If you acquire goods from Generac Power Systems or any of its authorized resellers and distributors for the purposes of a business, then pursuant to section 43(2) of the CGA, it is agreed that the provisions of the CGA do not apply.

GENERAC POWER SYSTEMS, INC. • P.O. BOX 8 • Waukesha, WI, USA 53187 Ph: (888) GENERAC (436-3722) • Fax: (262) 544-4851

To locate the nearest Independent Authorized Service Dealer and to download schematics, exploded views and parts lists

visit our website: www.generac.com

Part No. 0K3486





CERTIFICATE



This is to certify that

Generac Power Systems, Inc.

S45 W29290 Hwy. 59 Waukesha, WI 53189 United States of America

with the organizational units/sites as listed in the annex

has implemented and maintains a Quality Management System.

Scope: Design, Manufacture, and Distribution of Power Products and Solutions.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO 9001 : 2015

Certificate registration no.	10012920 QM15				
Date of original certification	2013-12-09				
Date of revision	2021-06-25				
Date of certification	2021-07-16				
Valid until	2024-07-15				



DQS Inc.

Brad Mc Guine

Brad McGuire Managing Director







Annex to certificate Registration No. 10012920 QM15

Generac Power Systems, Inc.

S45 W29290 Hwy. 59 Waukesha, WI 53189 United States of America

Location

10012920 Generac Power Systems, Inc. S45 W29290 Hwy. 59 Waukesha, WI 53189 United States of America

10012922 Generac Power Systems, Inc. 211 Murphy Dr. Eagle, WI 53119 United States of America

10012923 Generac Power Systems, Inc. 757 N. Newcomb St. Whitewater, WI 53190 United States of America

10012924 Generac Power Systems, Inc. 900 N. Parkway Jefferson, WI 53549 United States of America

10013528 Generac Power Systems 3815 Oregon St. Oshkosh, WI 54902 United States of America

10017103 Generac Mobile 215 Power Drive Berlin, WI 54923 United States of America Scope

Design and Support of Power Products and Solutions.

Manufacture and Distribution of Power Products and Solutions.

Manufacture and Distribution of Power Products and Solutions.

Manufacture of Power Products and Solutions.

Manufacture and Distribution of Power Products.

Manufacture and Distribution of Power Products.



This annex (edition: 2021-06-25) is only valid in connection with the above-mentioned certificate.





Annex to certificate Registration No. 10012920 QM15

Generac Power Systems, Inc.

S45 W29290 Hwy. 59 Waukesha, WI 53189 United States of America

Remote Location

10014175 Generac Power Systems, Inc. 351 Collins Road Jefferson, WI 53549 United States of America Scope

The remote location at Jefferson, WI performs the following primary functions: Parts and Components Receiving, Inventory, Return and Reconditioning of Product, and Distribution to Generac Locations.

10017439 Generac Mobile 745 E. Knopf St. Berlin, WI 54923 United States of America

10018422 Generac Power Systems, Inc. 303 Venture Court Janesville, WI 53546 United States of America The remote location at Berlin, WI performs the following primary functions: Warehousing and Shipping.

The remote location at Janesville, WI performs the following primary functions: Parts and Components Receiving, Kitting, Warehousing, Inventory, and Distribution to Generac locations.



This annex (edition: 2021-06-25) is only valid in connection with the above-mentioned certificate.

OFFICE OF TRANSPORTATION AND AIR QUALITY ANN ARBOR, MICHIGAN 48105	r, Division Director N/A		ationary and mobile) and subject to the terms and conditions o applicable requirements and which represent the following . ations that applied to those engines described in the effined in 40 CFR Part 60. This certificate of conformity does urt order. Failure to comply with the requirements of such a tificate that this certificate may be revoked or suspended or . prior to the effective date of the certificate.
IENTAL PROTECTION AGENCY DEL YEAR OF CONFORMITY CLEAN AIR ACT	Effective Date: 09/30/2021Effective Date: Byron J BunkerExpiration Date: 12/31/2022Byron J Bunker Complia	100 B P.42	art 60, 1065, 1068, and 60 (stationary only and combined st pect to the test engines which have been found to conform to ed by 40 CFR Part 60 and produced in the stated model year which conform in all material respects to the design specific lyear stated on this certificate of the said manufacturer, as da cribed in 40 CFR Part 60. It is also a term of this cer ions specified in 40 CFR Part 60. It is also a term of this cer ced, or delivered for introduction, into commerce in the U.S
UNITED STATES ENVIRONN 2022 MC CERTIFICATE WITH THE (erac Power Systems, Inc. Manufacturer or Importer) B08.9203-019	er Systems, Inc. 9203 tion Type: Stationary G)	Clean Air Act (42 U.S.C. section 7547) and 40 CFR P this certificate of conformity is hereby issued with res mily, more fully described in the documentation requir covers only those new nonroad spark-ignition engines CFR Part 60 and which are produced during the mode orted prior to the effective date of the certificate. at the manufacturer shall consent to all inspections de d to revocation or suspension of this certificate for real reasons specified in 40 CFR Part 60. large nonroad engines sold, offered for sale, or introdu
AND REAL OF ACTION AGENCY	Certificate Issued To: Gen (U.S. N Certificate Number: NGNX)	Manufacturer: Generac Pow Engine Family: NGNXB08.5 Mobile/Stationary Certificat Fuel : Natural Gas (CNG/LNt Emission Standards : Part 60 Subpart JJJJ Table 1 CO (g/Hp-hr) : 4.0 VOC (g/Hp-hr) : 1.0 NOX (g/Hp-hr) : 2.0 Emergency Use Only : Y	Pursuant to Section 213 of the prescribed in those provisions, nonroad engines, by engine fan This certificate of conformity c documentation required by 401 not cover nonroad engines imp It is a term of this certificate th warrant or court order may leac rendered void <i>ab initio</i> for othe This certificate does not cover.

United States Environmental Protection Agency Warranty Statement (Stationary Emergency Spark-Ignited Generators)

Warranty Rights, Obligations and Coverage

The United States Environmental Protection Agency (EPA) and Generac Power Systems, Inc. (Generac) are pleased to explain the Emission Control System Warranty on your new stationary emergency engine. If during the warranty period, any emission control system or component on your engine is found defective in materials or workmanship, Generac will repair your engine at no cost to you for diagnosis, replacement parts and labor provided it be done by a Generac Authorized Warranty Service Facility. Your emission control system may include parts such as the fuel metering, ignition, and exhaust systems and other related emission related components listed below. Generac will warrant the emissions control systems on your 2009 and later model year engines provided there has been no abuse, neglect, unapproved modification, or improper maintenance of your engine. For engines less than 130 HP the warranty period is two years from the date of sale to the ultimate purchaser. For engines greater than or equal to 130 HP the warranty period is three years or 2500 hours of operation, whichever comes first, from the date of the engine being placed into service. For high-cost warranted components, the Emission Control System warranty is valid for 5 years or 3500 hours of operation, whichever comes first.

Purchaser's/Owner's Warranty Responsibilities

As the engine purchaser/owner you are responsible for the following: 1) The engine must be installed and configured in accordance to Generac's installation specifications. 2) The completion of all maintenance requirements listed in your Owner's Manual. 3) Any engine setting adjustment must be done in accordance and consistent with the instructions in the Owner's Manual. 4) Any emission control system or component must be maintained and operated appropriately in order to ensure proper operation of the engine and control system to minimize emissions at all times.

Generac may deny any/or all Emission Control System Warranty coverage or responsibility of the engine, or an emission control system or component on your engine thereof, if it has failed due to abuse, neglect, unapproved modification or improper maintenance, or the use of counterfeit and/or "gray market" parts not made, supplied or approved by Generac. Warranty service can be arranged by contacting either your selling dealer or a Generac Authorized Warranty Service dealer, 1-800-333-1322 for the dealer nearest you. The purchaser/owner shall be responsible for any expenses or other charges incurred for service calls and/or transportation of the product to/from the inspection or repair facilities. The purchaser/owner shall be responsible for any and/or all damages or losses incurred while the engine is being transported/shipped for inspection or warranty repairs. Contact Generac Power Systems Inc. for additional Emission Control System Warranty related information, Generac Power Systems, Inc., PO. Box 8, Waukesha, WI 53187, or call 1-800-333-1322 or www.generac.com.

Important Note

This warranty statement explains your rights and obligations under the Emission Control System Warranty, which is provided to you by Generac pursuant to federal law. Note that this warranty shall not apply to any incidental, consequential, or indirect damages caused by defects in materials or workmanship or any delay in repair or replacement of the defective part(s). This warranty is in place of all other warranties, expressed or implied. Specifically, Generac makes no other warranties as to the merchantability or fitness for a particular purpose. Any implied warranties which are allowed by law, shall be limited in duration to the terms of the express warranty provided herein. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Emission Related Parts Include the Following (if so equipped)

- 1) Fuel Metering System
- 1.1) Gasoline Carburetor Assembly and Internal Components A) Fuel Filter, B) Carburetor, C) Fuel Pump
- 1.2) Carburetion Assembly and Its Components
 - A) Fuel Controller, B) Carburetor and Its Gaskets,
 - C) Mixer and Its Gaskets, D) Primary Gas Regulator, E) Liquid Vaporizer
- 1.3) Fuel Regulator
- 2) Air Induction System Including A) Intake Pipe/Manifold, B) Air Cleaner

- 3) Ignition System Including A) Spark Plug, B) Ignition Module, C) Ignition Coil, D) Spark Plug Wires
- 4) Exhaust System
 A) Catalyst Assembly*, B) Exhaust Manifold, C) Muffler,
 D) Exhaust Pipe, E) Muffler Gasket
- 5) Crankcase Breather Assembly Including A) Breather Connection Tube, B) PCV Valve
- 6) Oxygen Sensor
- 7) Diagnostic Emission-Control System

*High-Cost Warranted Component

EmsnWrnty001

Revision F (04/15)

United States Environmental Protection Agency Compliance Requirements (Stationary Emergency Spark-Ignited Generators)

Purchaser's/Owner's Record Keeping Responsibilities

The United States Environmental Protection Agency (EPA) and Generac Power Systems, Inc. (Generac) are pleased to explain your record keeping requirements for compliance with Subpart JJJJ- Standards of Performance for Stationary Spark Ignition Internal Combustion Engines as listed in the Electronic Code of Federal Regulations Title 40 Part 60. As the engine purchaser/owner who operates and maintains their certified emergency stationary engine and emission control system according to applicable emission related guidelines as specified in this Owner's Manual, you are required to meet the following notification and record keeping requirements to demonstrate compliance: 1) Maintain documentation that the engine is certified to meet emission standards. 2) Record keeping of maintenance conducted. 3) Record keeping of the provision allowing natural gas engines to operate using propane for a maximum of 100 hours per year as an alternate fuel solely during emergency operations provided the engine is not certified to operate on propane. 4) Meet all compliance notifications submitted to the purchaser/owner and maintain all supporting documentation. 5) Record keeping of hours of operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. For emergency engines greater than or equal to 130 HP, record keeping of hours of operation begins January 1, 2011. For emergency engines less than 130 HP, record keeping of hours of operation begins January 1, 2011.

Specific Air Quality Management or Air Pollution Control Districts may have different and additional record keeping/reporting requirements. Your permit to construct and/or operate the engine may be contingent upon compliance with those requirements. Check with your local Air Quality Management or Air Pollution Control District for specific requirements.

Emergency stationary internal combustion engines (ICE) may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, Generac, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The purchaser/owner may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing.

The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. For purchaser/owner of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section is prohibited.

If you operate and maintain your certified emergency stationary SI internal combustion engine and emissions control systems in accordance to the specifications and guidelines in this Owner's Manual, EPA will not require engine performance testing. If not, your engine will be considered non-certified and you must demonstrate compliance according to Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines as listed in the Electronic Code of Federal Regulations Title 40 Part 60.

Emission-Related Installation Instructions

Your certified emergency stationary engine has pre-set emission control systems or components that require no adjustment. Inspection and replacement of an emissions related component is required to be done so in accordance with the requirements cited in the United States Environmental Protection Agency Warranty Statement or can be arranged by contacting either your selling dealer or a Generac Authorized Warranty Service dealer, 1-800-333-1322 for the dealer nearest you. Failing to follow these instructions when installing a certified engine in a piece of non-road equipment violates federal law 40 CFR 1068.105 (b), subject to fines or penalties as described in the Clean Air Act.

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Revision F (04/15)

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Subcontract Agreement

1. <u>Prime Contract</u>: Subcontractor acknowledges that **Frank Rewold & Sons Inc.** (Contractor) has agreed to furnish certain labor and materials (the Work) to the project (the Project) described in this Subcontract (Subcontract) pursuant to a certain contract between Contractor and the Owner of the Project (the Prime Contract), a copy of which has been made available to Subcontractor. Subcontractor shall be bound by the terms of the Prime Contract and all documents incorporated therein, including, without limitation, the general, supplemental and special conditions, and Subcontractor assumes toward Contractor, with respect to the Work, all of the obligations and responsibilities that the Contractor has assumed toward the Owner under the Prime Contract.

Subcontractor specifically agrees to be bound by all obligations and requirements in the Prime Contract to pay prevailing wages when applicable and at all times shall provide Contractor with all documents reasonably requested by Contractor, demonstrating that Subcontractor is in full compliance with the Prime Contract with regard to the payment and documentation regarding prevailing wages.

Performance of the Work. Subcontractor shall furnish and perform the Work in a good and workmanlike manner and in strict 2. accordance with this Subcontract and the Prime Contract, all applicable laws, codes, ordinances and regulations and the plans and specifications described on the first page of this Subcontract (the Plans and Specifications) (collectively, as the same may be amended. modified and/or supplemented in accordance with the provisions of this Subcontract, the Contract Documents). If a conflict exists between or within the Plans and/or Specifications, Subcontractor shall comply with the provision that imposes the greater duty. Subcontractor represents and agrees that it: (i) has carefully examined and understands the Contract Documents; (ii) has investigated the nature, locality and site of the Work and the conditions and difficulties under which it is to be performed; (iii) enters into this Subcontract on the basis of its own examination, investigation and evaluations of all such matters; (iv) does not reply upon any opinions or representations of Contractor or Owner or of any of their officers, agents, partners, members, shareholders or employees except as expressly set forth in the Contract Documents; and (v) is licensed to perform the Work (if so required by applicable law) and, otherwise, is qualified to perform the Work. Subcontractors must provide evidence of their Worker's Compensation Experience Modification Rating (EMR) to Frank Rewold & Sons Inc. prior to award of any subcontract and any EMR exceeding 1.0 will require explanation, which is subject to review and approval. Subcontractor is to notify Frank Rewold & Sons Inc. if at any time during the term of the subcontract its EMR rises above 1.0. Contractor makes no warranty or representation that the Plans or Specifications meet all governmental laws, codes, ordinances or regulations now existing or hereafter promulgated.

3. <u>**Terms of Payment**</u>. The Owner's payment to Contractor for the Work is an express condition precedent to Contractor's obligations to pay Subcontractor hereunder. The contract amount shall be payable to Subcontractor as follows:

(a) Not less than ten (10) days prior to Subcontractor's first application for payment, Subcontractor shall provide to Contractor a Schedule of Values allocating the entire contract amount among the various portions of the Work, which Schedule of Values shall be prepared in such a form and supported by such data to substantiate its accuracy as Contractor may require. The Schedule of Values shall be used as a basis for reviewing each application for payment.

(b) Contractor shall pay Subcontractor within ten (10) business days following Contractor's receipt of (i) payment from the Owner of the Project with respect that portion of the Work for which Subcontractor seeks payment; and (ii) proper waivers of lien and sworn statements from Subcontractor and any subcontractors, suppliers and laborers furnishing labor or material through or under Subcontractor.

(c) Applications for payment shall show the percentage completion of each portion of the Work as of the end of the period covered by the application for payment. The percentage completion shall be the lesser of (i) the percentage of that portion of the Work which has actually been completed or (ii) the share of the contract amount allocated to that portion of the Work in the Schedule of Values.

d) Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

(i) Take that portion of the contract amount properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the contract amount allocated to that portion of the Work in the Schedule of Values, less retainage of ten percent (10%).

(ii) Subtract aggregate of previous payments made by Contractor.

(iii) Subtract amounts that are determined to have been improperly paid to Subcontractor pursuant to previous applications for payment as a result of errors subsequently discovered by Contractor.

(e) Retainage and the unpaid balance of the contract amount shall be paid within ten (10) days after the last of the following to occur:
 (i) Final completion of the Work in accordance with the Contract Documents (including, without limitation, all punch list

work).

(ii)

Acceptance of the Work by Contractor, the Owner of the Project and the Project Architect.

(iii) Proper evidence that all entities supplying labor and/or material in connection with the Work have been fully paid (including all fringe benefits) and Contractor's receipt of as-built drawings of the Work and all operation manuals and written warranties and guaranties contemplated by the Contract Documents.

(f) No payments made under this Subcontract shall be construed as evidence of Subcontractor's proper or complete performance of the Work or Subcontractor's obligations hereunder, and no payment shall be construed to be an acceptance of defective Work.

(g) Subcontractor agrees to promptly pay the amounts due to all subcontractors, consultants, suppliers and laborers furnishing labor and/or materials to the Project through or under Subcontractor.

(h) Subcontractor shall not stop the Work in the event of a dispute as to payments owed provided that all uncontested amounts properly due Subcontractor have been paid in accordance with this Subcontract.

(i) All payment requests shall be submitted on AIA G702/G703 Application and Certificate for Payment forms or such other form as required by Contractor with an accompanying Sworn Statement in accordance with the billing date set forth in this Subcontract. Said request shall not include unapproved change order work and may be rejected if unapproved change order work is included on the payment request.

4. <u>Commencement and Completion</u>. Subcontractor agrees that its Work will be begin by the start date set forth in the Project schedule prepared by the Contractor and shall be completed by the date set forth in the Contractor's most recent schedule for completion of the Subcontractor's Work. Subcontractor shall sequence and complete the Work as to insure that the Contractor completes the entire Project by the Completion Date as required under the Prime Contract. Subcontractor recognizes that Contractor shall suffer financial loss if the Work is not completed within the time specified above and further agrees that Subcontractor shall be liable to Contractor therefore.

5. <u>Attendance at Meetings; Updated Work Schedule</u>. A duly authorized representative of Subcontractor shall attend all periodic job meetings held on site at Contractor's field office or such other location as reasonably may be designated by Contractor, at which time Subcontractor shall present an updated Work Schedule subject to Contractor's approval and be prepared to discuss the details of the Work. In addition to Subcontractor's obligation to provide updated Work Schedules to Contractor at periodic job meetings, Subcontractor shall provide Contractor with updated Work Schedules at such other times as Contractor may request from time to time through the course of construction.

6. <u>Supervision of Construction</u>. Subcontractor shall supervise the Work using its best skill and attention. Subcontractor shall be solely responsible for all construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work or the requirements of the Plans and Specifications. Subcontractor shall be responsible to Contractor for the acts and omissions of its employees, subcontractors and their agents and employees, and other persons performing any of the Work through or under Subcontractor. Subcontractor shall at all times enforce strict discipline and good order among its employees and those under it performing work, and shall not employ on the Work any unfit person or anyone not skilled in the task assigned to him or her. Subcontractor shall also be liable for any fines/violations/remediation for causing or allowing employees to work in an unsafe environment as deemed by MIOSHA/OSHA requirements.

7. <u>Work of Others</u>. Should Subcontractor, its subcontractors or suppliers cause damage to the Work of any other contractor, subcontractor and/or supplier on the Project, Subcontractor agrees to compensate such other contractor, subcontractor and/or supplier to the extent of its/their damage. If Subcontractor fails to pay such costs within ten (10) days after receipt of written notice from Contractor, Contractor may deduct the amount thereof from any sums due or to become due Subcontractor hereunder.

8. <u>Cleanup and Removal</u>. Subcontractor shall maintain the areas in which it performs the Work in a clean, neat and safe condition and shall comply promptly with instructions from Contractor with respect thereto, upon completion of each stage, or when requested by Contractor. Subcontractor shall remove from the areas in which it performs the Work, to the satisfaction of Contractor, all of Subcontractor's rubbish, debris, materials, tools and equipment; and if Subcontractor fails to do so promptly, Contractor may, after twenty-four (24) hours' notice to Subcontractor, remove the same to any place of storage or dumping ground, at Subcontractor's risk and expense and without responsibility for loss, damage or theft. All storage or removal costs incurred by Contractor shall be deductible from any payment or balance due Subcontractor hereunder.

9. <u>Theft, Loss, and Damage to Work</u>. Subcontractor shall be responsible for any loss, damage, or theft of its materials, work performed, and equipment pending completion of the Work. In the event such loss, damage, or theft should occur; Subcontractor shall not be relieved of its contractual responsibility to perform all Work prior to the Completion Date and in accordance with the Schedule.

10. Lien Waivers; Trust Fund: Miscellaneous Rights of Contractor.

(a) Subcontractor shall pay, or cause to be paid in full, for all materials, labor, and any and all obligations incurred in its performance under this Subcontract, or by its agents, suppliers, contractors or subcontractors, working under or through Subcontractor. Any and all payments to Subcontractor are conditioned upon prior delivery to Contractor of full waivers of liens, lien rights and payment bond rights for all labor and materials furnished by Subcontractor, its subcontractors, suppliers and any person or entity working through or under them for Work completed at the time of such payment. No payment hereunder shall be made until and unless said waivers are furnished with each payment request.

(b) Subcontractor agrees that all payments received by it shall be deemed to be, and constitute, a trust fund, and shall be first used and applied by Subcontractor in payment for all materials, labor and any and all other obligations incurred in connection with the Work, prior to their use and application by Subcontractor for its own or any other purpose.

(c) In addition, Subcontractor hereby grants to Contractor the following rights: (i) to request names, phone numbers, copies of agreements and account status reports as to any of Subcontractor's own suppliers, subcontractors, labor unions or workmen; (ii) to audit Subcontractor's records to verify the account status of any Subcontractor's own suppliers, subcontractors, labor unions or workmen; and (iii) to make direct payment of amounts properly payable to any of Subcontractor's own suppliers, subcontractors, labor unions, or workmen where Contractor determines that Subcontractor has failed to make required payments to such entities. Any such payments so made by Contractor shall be deemed a proper credit in like amount against amounts due from Contractor to Subcontractor. Payment by Contractor to any subcontractor, laborer or supplier of Subcontractor shall not relieve Subcontractor of any obligations to Contractor under this Sucontract. Contractor, in its sole discretion, may make payment by checks payable jointly to Subcontractor and any subcontractor, laborer or supplier of Subcontractor.

(d) With each invoice submitted, the Subcontractor shall furnish a Sworn Statement listing each of its subcontractors, suppliers, laborers and union funds relating to the Project showing the amounts due and unpaid to each, together with waivers of liens from all sub/subcontractors and suppliers.

11. <u>Permits, Bonds and Taxes</u>. Subcontractor, at its own expense and cost, shall apply for and obtain all necessary permits and inspections as required by law for the performance of the Work. Subcontractor is responsible for paying all required taxes, bonds and licenses relating to the Work.

12. <u>Warranty</u>. NEITHER THE FINAL NOR ANY PROGRESS PAYMENTS SHALL RELIEVE SUBCONTRACTOR OF RESPONSIBILITY FOR FAULTY MATERIALS OR WORKMANSHIP. SUBCONTRACTOR HEREBY WARRANTS THAT THE WORK SHALL BE WITHOUT FAULT OR DEFECT FOR THE PERIOD SET FORTH IN THE PRIME CONTRACT OR FOR A PERIOD OF ONE (1) YEAR FROM FINAL COMPLETION OF THE PROJECT, WHICHEVER IS LONGER. SUBCONTRACTOR AGREES TO COMMENCE CORRECTIVE ACTION WITHIN FIVE (5) BUSINESS DAYS OF BEING NOTIFIED BY CONTRACTOR OF WORK WHICH IS INCOMPLETE OR DEFECTIVE. SUBCONTRACTOR AGREES TO PERFORM AND COMPLETE AT ITS COST ANY WARRANTY WORK WITH ALL DUE DILIGENCE. IF SUBCONTRACTOR FAILS TO PERFORM THE REQUIRED CORRECTIVE ACTION IN A TIMELY FASHION, CONTRACTOR MAY CAUSE THE WORK TO BE PERFORMED BY OTHERS AND SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS OF SAME AND CONTRACTOR MAY DEDUCT SUCH COSTS FROM ANY PAYMENTS DUE SUBCONTRACTOR, WHICH REMEDY SHALL BE IN ADDITION TO AND NOT A LIMITATION OF ALL RIGHTS AND REMEDIES OF CONTRACTOR UNDER THE APPLICABLE SUBCONTRACT, THESE GENERAL TERMS AND CONDITIONS, OR UNDER LAW OR IN EQUITY.

13. <u>Insurance and Indemnification</u>.

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Subcontractor shall, at its own expense, maintain at least the following minimum insurance coverages or such greater coverages or limits as referenced in the Prime Contract:

A. Provide for and maintain through an insurance company licensed in the state of Michigan <u>WITH A BEST'S RATING OF A-, VIII</u> <u>OR BETTER</u> and acceptable to the Contractor, COMMERCIAL general liability, employer's liability and worker's compensation, comprehensive automobile insurance AND UMBRELLA/EXCESS for the Subcontractor and its employees with limits in amounts and other coverages as set forth below and to furnish Certificates of Insurance of such insurance coverages to the Contractor. The Subcontractor shall not perform work on the site until an insurance certificate evidencing coverages, limits, and other requirements outlined below has been provided to the Contractor.

1. Provide Contractor with a Certificate of Insurance on an Accord Certificate Form 25-S, or a comparable form, which is satisfactory to Contractor. A 30-Day notice of cancellation is required. The words "Endeavour to" and "but failure to mail such notice shall impose no obligations or liability of any kind upon the company, its agents or representative" shall be stricken or removed from the notice of cancellation.

The Insurance Certificates shall reflect the following types of coverages in amounts not less than that stated:

i. <u>Worker's Compensation Insurance</u> covering your statutory obligation in the state(s) which the work for us is to be performed and <u>Employer's Liability Insurance</u> with limits of \$500,000.00 Each Accident, \$500,000.00 Disease – Policy Limit and Disease – Each Employee \$500,000.00.

ii. <u>Automobile Liability Insurance with</u> a combined single limit for bodily Injury and Property Damage Liability of \$1,000,000.00 per accident covering your owned, non-owned, and hired automobiles.

iii. <u>Commercial General Liability Insurance</u> written on an Occurrence Policy Form which includes coverage for your operations, personal injury, CU (explosion, collapse and underground), Independent contractors, contractual and products/completed operations with the following limits of liability; PER JOB SITE AGGREGATE.

General Aggregate	\$2,000,000.00
Products/Comp.	2,000,000.00
Personal and Adv. Injury	1,000,000.00
Each Occurrence	1,000,000.00
Draducto/Completed Operations	The full factor and the state of the state o

b. Products/Completed Operations Liability must be maintained for not less than three (3) years after

acceptance of your work. iv.

2.

Excess or Umbrella Liability Insurance with occurrence/aggregate limit displayed below.

a. Type I, Subcontractors – Asphalt Paving, Curtain Walls <u>AND</u> Windows, Demolition, Drywall, Electrical, Elevator, Erection, Excavation, Fencing, Fireplace, Fire Protection, Masonry, Mechanical, Plumbing including excavation, Pool, Roofing, Rough Carpentry, Concrete Flatwork, Sewer/Water, Structural Steel, Underground Utilities, and similar.

\$5,000,000.00 occurrence/aggregate excess/umbrella or

b. Type II, Subcontractors – Cabinets, Caulking, Finish Carpentry, EIFS, Flagpoles, Floor Covering, Floor Finishes, Glass and Aluminum, Insulation, Kitchen Equipment, Landscaping, Metal or Vinyl Siding, Millwork, Miscellaneous Specialties, Overhead Doors, Painting, Plastering, Plumbing without excavation, Signs, Telephone/Security/Audio Systems, Tile, Toilet Partitions, Wallpaper, Waterproofing, and similar.

\$2,000,000.00 occurrence/aggregate excess/umbrella.

v. <u>PROFESSIONAL LIABILITY INSURANCE WITH LIMITS OF \$1,000,000.00 PER CLAIM AND AGGREGATE</u> WHEN PROVIDING PROFESSIONAL DESIGN SERVICES ASSOCIATED WITH THIS AGREEMENT.

3. FRANK REWOLD & SONS INC., AND THE OWNER SHALL BE NAMED AS PRIMARY ADDITIONAL INSUREDS ON THE GENERAL LIABILITY POLICY USING FORM CG-2010 11-85 OR AN ENDORSEMENT(S) PROVIDING EQUIVALENT "ARISING OUT OF" COVERAGE, AUTOMOBILE AND UMBRELLA POLICIES REQUIRED HEREUNDER. SUBCONTRACTOR AGREES THAT THE ADDITIONAL INSURED ENDORSEMENTS SHALL COVER COMPLETED OPERATIONS.

4. The General Liability coverage for the additional insureds shall be "work performed" and "shall be primary and noncontributory for ongoing completed operations with other insurance maintained by the additional insured being excess and noncontributing to the Subcontractor's insurance." Language to this effect shall be provided on the Certificate of Insurance. Any deviation

in coverage provided by the Standard 1986 ISO Simplified General Liability Policy must be clearly noted and shall be finding hereunder until accepted in writing by the Contractor.

5. General LIABILITY and auto liability limits may be attained by individual policies or by a combination of individual, umbrella, and/or excess liability policies.

6. <u>THERE SHALL BE NO RESIDENTIAL EXCLUSION IN ANY POLICY THAT IS PROVIDED TO SATISFY THESE</u> <u>REQUIREMENTS IF THE PROJECT IS OF A RESIDENTIAL NATURE.</u>

7. Subcontractor shall maintain product/completed operations coverage through the longer of three (3) years or the longest period of the last applicable statute of limitation or repose for construction defects and products liability claims in the state where the work is performed.

B. <u>Waiver of Subrogation:</u> <u>SUBCONTRACTOR SHALL WAIVE AND REQUIRE ITS INSURERS PROVIDING COVERAGE BY</u> THESE REQUIREMENTS TO WAIVE SUBROGATION RIGHTS AGAINST THE CONTRACTOR, OWNER AND ALL OTHER ADDITIONAL INSURED FOR LOSSES AND DAMAGES INCURRED AND/OR PAID UNDER THE INSURANCE POLICIES REQUIRED BY THESE REQUIREMENTS OR OTHER INSURANCE APPLICABLE TO SUBCONTACTOR OR ITS SUBCONTRACTORS, SUPPLIERS, ETC. AND WILL INCLUDE THIS SAME REQUIREMENT IN CONTRACTS WITH THESE PARTIES. IF THE POLICIES OF INSURANCE REFERRED TO IN THIS PARAGRAPH REQUIRE AN ENDORSEMENT TO PROVIDE FOR CONTINUED COVERAGE WHERE THERE IS A WAIVER OF SUBROGATION, THE OWNERS OF SUCH POLICIES WILL CAUSE THEM TO BE SO ENDORSED.

Contractor and Subcontractor waive all rights they may have against each other, the Owner, the Architect/Engineer and other consultants, and other subcontractors for damages covered by builder's risk or other property insurance, except rights they may have to the proceeds of such insurance. Subcontractor shall require its vendors, suppliers, and sub-subcontractors, by written agreement, to waive all rights they may have against the same parties for damages covered by builder's risk or other property insurance except the rights to proceeds of such insurance.

C. Subcontractor assumes and undertakes the entire risk of any and all personal injuries and/or property damage arising out of or in any connected with the Work. To the fullest extent permitted by law, Subcontractor shall indemnify, hold harmless and defend Contractor and the Owner of the Project, their respective officers, members, directors, employees, agents and representatives from and against any and all damages, expenses, claims and suits of whatever kind or nature (including attorney fees) arising out of or in any way connected with the Work, unless the injuries or damages are caused by the sole negligence of the party to be indemnified. The provisions of this section shall survive termination of this subcontract.

14. <u>Time is of the Essence</u>. Time is of the essence of Subcontractor's performance of the Work. Subcontractor agrees to complete the Work by the Completion Date, and to do the Work at greater or lesser speeds and at such times and in such quantities as in Contractor's judgment are required for the best possible progress of the construction of the Project or as shall be specifically requested by Contractor. Subcontractor also shall so conduct the Work as to facilitate and so as not to interfere with or delay the work of Contractor any other subcontractor or contractor employed on the job.

15. <u>Alterations/Change Orders/Claims</u>.

(a) No additions, deductions, changes or alterations shall be made to the Work and no claim for changed or extra work or materials in any event (Additional Work) shall be recognized except on written order signed by the Project Manager or an officer of Contractor. No other employee of the Contractor will be authorized to alter or issue change orders to this Contract. The amount to be paid by, or credited to, Contractor as a result of any such additions, deductions, changes or alterations shall be stated in the order.

(b) All claims by Subcontractor for (i) loss or damage against Contractor; and/or (ii) an extension of the completion date, however arising, shall be made to Contractor within fourteen (14) days from (i) the date Subcontractor first sustains any such loss or damage; or (ii) the date on which the event giving rise to an alleged delay or need for an extension of the Completion Date first occurs. If Subcontractor fails to make such claim within that time by a written statement setting forth all items of loss, damage and/or delay, as applicable, the amount and details thereof, or if Subcontractor fails to render each day thereafter a written itemized statement of the details and amounts of any continuing claim for each loss, damage or delay duly verified by Subcontractor, its rights to damages and reimbursement therefore and any rights to any extension of the Completion Date shall be deemed to have been waived and forfeited and Subcontractor shall not be entitled to any payment, or any extension of the Completion Date, on account of any such claims upon Contractor's actual receipt of payment from the Owner for Subcontractor shall only be entitled to payment for any such claims upon Contractor's actual receipt of payment from the Owner for Subcontractor's claim(s).

16. <u>Subcontractor's Default</u>. If Subcontractor (i) fails to perform the Work or any part thereof with promptness and diligence; (ii) delays the progress of the Project; (iii) becomes bankrupt or insolvent; (iv) fails to sufficiently supply properly skilled workmen or materials of proper quality; (v) fails to pay its subcontractors, suppliers or laborers the amounts properly due said persons or entities; (vi) fails to pay workers' compensation or other employee benefits; (vii) fails to comply with the safety provisions of the Subcontract or Project, its own safety plan or any safety plan of Contractor, or with any safety order, regulation or requirement of any governing authority having jurisdiction over this Project; (viii) shall file a voluntary petition in bankruptcy or be adjudicated insolvent, obtain an order for relief under Section 301 of the Bankruptcy Code, file any petition or fail to contest any petition filed seeking any reorganization or similar relief under any laws relating to bankruptcy, insolvency or other relief or debtors, or seek or consent to or acquiesce in the appointment of any trustees, receiver or liquidator of any of its assets or property, make an assignment for the benefit of creditors; or make an admission in writing of its inability to pay its debts as they become due; (ix) defaults on any other contract with Contractor, or (x) fails in any other respect to comply with the Contract Documents, then, in addition to any other remedies available at law or in equity and/or under this Subcontract:

(a) Contractor may require that Subcontractor utilize, at Subcontractor's own expense, additional labor, overtime labor (including Saturday and Sunday work) and additional shifts as necessary to overcome the consequences of any delay attributable to Subcontractor's default; and/or

(b) After forty-eight (48) hours' written (or oral, confirmed in writing) notice to Subcontractor, Contractor may remedy Subcontractor's default by whatever means Contractor may deem necessary or appropriate, including, without limitation, providing such labor and materials as may be necessary to properly complete the Work, whereupon Contractor may deduct the cost and expense thereof from any money then due or thereafter to become due Subcontractor under the applicable Subcontract; and/or

(c) After giving Subcontractor forty-eight (48) hours' written (or oral, confirmed in writing) notice, terminate the applicable Subcontract, without thereby waiving or releasing any rights or remedies against Subcontractor or its sureties; and/or

(d) Contractor may recover from Subcontractor all costs incurred by Contractor to complete the Work plus a ten percent (10%) markup for overhead and profit, and further recover from Subcontractor all losses, damages, penalties and fines, whether actual or liquidated, direct or consequential, and all reasonable attorneys' fees suffered or incurred by Contractor as a result of said default(s); and/or (e) Contractor may bar Subcontractor from the job site and to take possession for the purpose of completing the Work included under the Contract Documents, all materials, tools, scaffolding, apparatus, machinery and equipment thereon, and to employ or contract with any other person or persons to finish the Work.

(f) Subcontractor shall not be entitled to receive any further payment under this Subcontract until the Work shall be wholly finished, at which time if the unpaid balance of the amount to be paid on this Subcontract shall exceed the expense incurred by Contractor in finishing the Work, then such unpaid balance, after deducting any loss, damage or expense, by reason of Subcontractor's failure to adequately perform, including damages for delays, and expense for attorney's fees, shall be paid to Subcontractor by Contractor. In case the costs, expenses, losses and damage of such work exceeds the unpaid balance, Subcontractor shall immediately pay the amount of such excess to Contractor.

(g) If, as a matter of law, the Contractor does not have the right, due to a bankruptcy proceeding involving the Subcontractor, to exercise the remedies provided for in this Subcontract, then if Subcontractor, as debtor or its trustee, wishes to assume the applicable Subcontract, in addition to curing or adequately assuring the cure of all the Subcontractor's defaults existing under this Subcontract on the date of filing of the proceedings and thereafter, Subcontractor, as debtor, or its trustee, must also furnish adequate assurances of future performance under this Subcontract.

(h) In the event that Contractor is later determined to have improperly terminated this Subcontract under this Article 16, such termination shall be deemed to have occurred under the following Article 17.

17. <u>Contractor's Right to Terminate Contract</u>. Anything to the contrary herein notwithstanding, Contractor, in its sole discretion, may terminate this Subcontract at any time, without cause, by giving at least forty-eight (48) hours' prior written notice of such termination to Subcontractor. Upon any termination of a Subcontract, and subject to all of the terms and provisions herein contained, Subcontractor shall be entitled to payment for all accepted Work furnished and installed by it pursuant to this Subcontract on a pro-rata basis. No profits shall be allowed on the uncompleted portion of the Work. Contractor shall only be liable for labor and materials properly furnished up to the date of termination and no profits shall be allowed on the uncompleted portion of the Work. Contractor of the Work. Contractor shall only be liable for labor and materials properly furnished up to the date of termination and/or materials ordered for Project, but only to the extent Subcontractor is liable for the cost thereof and has no ability to return uninstalled material. In the event of the termination of the Contract between Contractor and the Owner of the Project, this Subcontract shall also be terminated. It is also understood and agreed that the Owner may have the right to approve or disapprove the employment of Subcontractor if the Owner does not approve Subcontractor, this Subcontract shall become null and void.

18. <u>No Liability for Delays</u>. Contractor shall not be liable to Subcontractor for any extra compensation or for any damages or additional costs that Subcontractor suffers or incurs from delays, interruptions and/or accelerations in performing the Work or furnishing materials, or other causes attributable to Contractor, Contractor's other Subcontractors or Owner. Subcontractor's sole remedy for delay, accelerations and/or interruptions shall be an extension of the Completion Date.

19. <u>Waiver and Remedies</u>. The waiver by Contractor of any default or of any breach of the terms of this Subcontract shall not be deemed a waiver of any subsequent breach.

20. <u>Assignment</u>. Subcontractor shall not assign all or any part of this Subcontract, nor any Work, nor any payments due or to become due hereunder, without first obtaining Contractor's written consent. In the event that Owner requests assignment of this Subcontract, Subcontractor consents to such assignment.

21. <u>Entire Agreement; Amendments; Governing Law</u>. Contractor and Subcontractor acknowledge that this Subcontract constitutes the whole agreement between them concerning the subject matter hereof. This Subcontract may not be modified or amended unless the modification or amendment is made in writing by duly authorized representatives of the Subcontractor and either (i) the representative who executed this Subcontract on behalf of Contractor or (ii) an Officer of Contractor. This Subcontract shall be governed by and construed in accordance with the laws of the State of Michigan.

22. <u>Fees of Collection</u>. If Contractor shall incur any cost or expense, including attorney fees, in preparing or prosecuting any claim against the Owner or in securing payment of the contract balances for work done by Subcontractor, Contractor shall be entitled to deduct Subcontractor's pro rata share of such costs and expenses from the amount due to Subcontractor.

23. <u>Mediation/Arbitration</u>. At Contractor's sole discretion, any dispute between Contractor and Subcontractor in any way relating to the Work or this Subcontract, may be submitted to mediation and/or arbitration pursuant to the Construction Industry Rules of the American Arbitration Association then in effect. Such Mediation/Arbitration shall take place in Oakland County, Michigan. Any decision of any Arbitrator rendered pursuant to an arbitration initiated or consented to by the Contractor may be enforced by a court of competent jurisdiction.

24. <u>Surety Bonds</u>. The Contractor shall have the right to require the Subcontractor to furnish payment and/or performance bonds covering the Work in such form and amounts as the Contractor requires and with sureties that are reasonably acceptable to the Contractor. If bonds are required in connection with Subcontractor's initial performance of the Work, all surety bond premiums shall be the obligation of the Subcontractor. If bonds are required by Contractor subsequent to the Subcontractor beginning its work, the actual costs of such premiums shall be reimbursed to Subcontractor.

Subcontractor Agreement (Revised 2-24-2020)



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

6						7/	21/2022
THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER. AND THE CERTIFICATE HOLDER.							
	INDORTANT: If the contificate holder is an ADDITIONAL INSURED, the policy/lies) must be andersed. If SURROCATION IS WAIVED, subject to					to	
th	he terms and conditions of the policy, certain pol	licies may require an endo	rsement. A statem	ent on this ce	rtificate does not confer	rights	to the
	ertificate holder in neu of such endorsement(s).		CONTACT Deset	lentest Nor			
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					PREMISES (Ea occurrence)	\$	15 000
	Contractual Liability				MED EXP (Any one person)	\$	1 000 000
					PERSONAL & ADV INJURY	\$	2,000,000
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Α	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	Policy #	mm/dd/yyyy	mm/dd/yyyy	STATUTE OTH-		
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	(Mandatory in NH)				E.L. DISEASE - EA EMPLOYEE	\$	1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below				E.L. DISEASE - POLICY LIMIT	\$	1,000,000
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DES	CRIPTION OF OPERATIONS/LOCATIONS/VEHICLES (ACORD 10)	01, Additional Remarks Schedule, m ank Rewold & Sons, Tr	ay be attached if more spa nc & Owner are	ace is required) add 'l insi	ured for General		
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	Frank Rewold & Sons, Inc.		ACCORDANCE WI	TH THE POLICY	-, NOTICE WILL BE DELIVER	ED IN	
	303 E. Third Street						
	Sulte 300 Decharter MT 40207		AUTHORIZED REPRESE	NTATIVE			
Rochester, MI 48307							

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Name:		
	Please Print Name	

Pledge to respect students, staff

and support safety during construction

HOSPITALITY PROGRAM:

Providing a safe and secure environment for our students and staff is the focus of everything we do. Our Hospitality Program is centered on the values of safety, service, friendliness, helpfulness, courtesy, communications, response, privacy, dignity, respect, listening and professionalism. The purpose of this pledge is to inform you, and to obtain your acknowledgment and agreement, that everyone working in and around Rochester Community Schools, has a stake in providing a quality education environment and to insure student and staff safety. By supporting and following these values, you will have a direct and positive impact on our students and staff.

IDENTIFICATION BADGES:

Contractors who will be working on a Rochester Community School campus, for more than one day, shall wear a Rochester Community School identification badge everywhere they go. The badges will be obtained through the RCS Facility Management Department, located at 1402 Hamlin Road, Rochester Hills.

PARKING:

Parking space at Rochester Community School campus is limited to designated parking areas for contractor employees. *Please refer to* **Rewold** *Method of Procedures Manual and site logistics' Plan for instruction*

OPEN CEILINGS:

Ceiling removal for access to mechanical and electrical work or investigation is often necessary. When the work is complete, the ceiling must be put back immediately. Ceilings in occupied areas that need to be left open for more than 1 day must have protection or approval from RCS Facilities Management.

OPEN FLAMES:

Open flames of any kind require a burn permit obtained through RCS Facility Management or the General Contractor on your job prior to using any open flames. This also applies to cutting and welding forms. A recent, inspected and approved "Class C" fire extinguisher shall be kept at the work site at all times. *Refer to the* **Rewold** *Contractual Safety Rules and the Site Specific Safety Plan for Hot Work Permit requirements*

TELEPHONES:

Rochester Community School telephones are off limits without prior approval. Please use job site designated phones or cell phones.

SMOKE DETECTORS:

Rochester Community School is protected by a network of smoke detectors. The detectors can be set off by dust, fumes, smoke or heat. Smoke alarms may be temporarily disconnected after contacting RCS Facilities Management and receiving approval.

HEALTH & SAFETY:

All construction personnel are expected to have been trained and follow health and safety practices as required by law. Rochester Community Schools will be providing periodic review of all job sites. It is expected that they will receive full cooperation. Contractors will contact the District Security Phone in the event of an emergency at (248) 789-2188.

UTILITY SHUTDOWNS:

No mechanical or electrical systems may be shut down or turned off for any reason without approval from RCS Facilities Management or without RCS Facilities Management's assistance. Plan your work so that three (3) calendar days' notice can be given for all shutdowns.

CAFETERIA:

Access to the cafeteria is allowable only for the purchase of food and beverages. Consumption of food and beverages in the cafeteria is not allowed, as the cafeteria is reserved for student use only.

HOUSEKEEPING:

The construction area shall be kept in a neat condition at all times. Combustible boxes, debris and scrap materials shall be disposed of daily. Provisions shall be made to avoid the tracking of dust outside of the construction area. No refuse is to be left at any entry. Contractors will not use Rochester Community School equipment to clean up their projects.

KEYS:

Keys or access to mechanical spaces and other locked areas are available from Facility Management only. The recipient's valid driver's license shall be copied by Facility Management department. Keys are required to be returned upon completion of use. Contact Facility Management at (248) 726-4600. *Please Coordinate all access with* **Rewold** *Site Superintendent*

OCCUPIED AREAS:

It is expected that contractor employees working in occupied areas, including corridors, be sensitive to students, staff and the public and to take measures to insure their safety and to protect the surrounding environment. Loud noises, yelling, foul language, dirt and debris, working without barricades, unattended ladders, toolboxes and material are not permitted.

SMOKING:

Rochester Community Schools are Smoke Free Campuses. Smoking is prohibited within any Rochester Community School building, campus or construction site.

TOILETS:

Contractor personnel shall only utilize staff toilets as directed by your Supervisor or Facility Management. It is expected that use of toilets by contractor personnel will be kept clean at all times and not result in any additional cleaning requirements. *Direction will be given by the* **Rewold** *Site Superintendent during contractor Orientation*.

NOISE:

Every effort shall be made to control noise from construction activities. A minimum of 24 hour notification to the Project Manager/Project Engineer, or RCS Facility Management and the adjacent departments shall be provided prior to noise generating activities. Pay particular attention to "Hilti" type guns, hammer drills, sledge hammers and saw cutting. Radios and/or personal sound systems are not permitted on the job within the schools. If uncertain, see your Supervisor.

DRUGS & ALCOHOL:

Rochester Community School is committed to maintaining a safe, productive work environment. Any contractor who is under the influence of drugs or alcohol poses a serious threat to his or her own safety and the safety of others. Also, a person cannot do his or her job properly while working under the influence of drugs or alcohol. Any contractor taking drugs or other medication, whether or not prescribed by a physician, who is known or publicized as possibly impairing judgement, coordination or other senses important to the safe, productive performance of work must notify his/her supervisor prior to starting work. The General Contractor and Construction Forman will decide whether the contractor may continue to work and/or will impose any necessary work restrictions. Contractors are prohibited from being at work with any detectable amount of alcohol or illegal drug in their system. Any contractor violating this will be subject to removal from the construction job site. Rochester Community School reserves the right to conduct drug/alcohol testing on any contractor.

CONCURRENCE:

I have read, understand and pledge, to support providing a safe workplace for students and staff as outlined above.

Signature

Company

Date

EMERGENCY PREPAREDNESS:

- To report a fire or a chemical spill, call the District Security phone at (248) 789-2188.
- If a fire alarm is announced in your work area, pull all equipment and work carts out of the hall to allow emergency exit.
- Review and understand any specific work site policies and procedures.



Contractor Installed Equipment Input Form

SCHEDULE D

Company Information
Name
Address
State, Zip

Phone

Project Name:

RCS USE ONLY Facility RCS USE ONLY Equipment Name \ *Warranty Warranty Maintenance Rm # / Serial Number Model Name / Number Manufacturer Installation Date Cost Warranty Contact & Phone Unit ID# Description Start Date End Date Tag/Asset Tag Location



List of Equipment to be Input in the Contractor Installed Equipment Form

This list is not meant to be all-inclusive. All equipment that will need preventative or corrective maintenance should be included.

Architectural Equipment

Rated Doors Automatic Door Operators Fire Extinguishers

Mechanical Equipment

Air Handlers Unit Venitlators (VUV's) Air Conditioning Unit **Cooling Towers** Fan Coil Unit Fans (Exhaust, Return, Roof, etc.) Humidifiers **Cabinet Unit Heaters Domestic Water Heaters** Chillers Cholled Water pumps Heating Hot Water pumps Hot Water Recirculating pumps Domestic Water Booster pumps Condensate pumps Sump pumps Fuel Oil pumps Boilers **Backflow Preventers** Steam to Water Heat Exchanger Tanks (Fuel, condensate, water, etc.) Dampers (Fire, Smoke, Combination) Variable Frequency Drives (VFD's) Meters

Electrical Equipment

Distribution \ Power Panels Lighting Panels Isolation Panels Receptical Panels Transformers Alarm Panels Control Panels Uniteruptible Power Systems (UPS) Automatic Transfer Switch (ATS) Meters Generators Parralleing Switchgear Switchgear Sub Station Motor Control Center (MCC)

Miscellaneous Equipment

Elevators Dubwaiters