CONTRACT DOCUMENTS FOR:

ITB #20-004

MOBILE GENERATOR INSTALLATION
KEY WEST BIGHT FERRY TERMINAL

OCTOBER 2019

CITY OF KEY WEST

MAYOR: TERI JOHNSTON

COMMISSIONERS:

JIMMY WEEKLEY

SAMUEL KAUFMAN

BILLY WARDLOW

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PREPARED BY:
Port & Marine Services

CITY OF KEY WEST

CAROLINE STREET AND BAHAMA VILLAGE
COMMUNITY REDEVELOPMENT AGENCY (CRA)

KEY WEST, FLORIDA

DOCUMENTS

for

MOBILE GENERATOR INSTALLATION
KEY WEST BIGHT FERRY TERMINAL

****

CONSISTING OF:

BIDDING REQUIREMENTS
CONTRACT FORMS
SUPPLEMENTAL INFORMATION

****

KEY WEST BIGHT FERRY TERMINAL (KWBFT)

OCTOBER 2019

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PART 1

BIDDING REQUIREMENTS

INVITATION TO BID

Sealed Bids for City of Key West Caroline Street and Bahama Village Community Redevelopment Agency (CRA) **"MOBILE GENERATOR INSTALLATION – KEY WEST BIGHT FERRY TERMINAL**," addressed to the City of Key West, will be received at the office of the City Clerk, 1300 White Street, Key West, Florida until **3:00 p.m**., local time, on the **6th day of November 2019**, and then will be publicly opened and read. Any bids received after the time and date specified will not be considered.

Please submit one (1) original bid package and two (2) electronic copies on USB drives with a single PDF file of the entire bid package. Bid package shall be enclosed in a sealed envelope, clearly marked on the outside **"ITB #20-004 MOBILE GENERATOR INSTALLATION – KEY WEST BIGHT FERRY TERMINAL"** addressed and delivered to the City Clerk at the address noted above.

The CRA is seeking BIDS from qualified individuals or firms for installation of a portable generator and associated equipment per the design documents and technical specifications.

The full Invitation to Bid may be obtained from Demand Star by Onvia and The City of Key West website. Please contact Demand Star at www.demandstar.com or call 1-800-711-1712 or www.cityofkeywest-fl.gov

EACH BID MUST BE SUBMITTED ON THE PRESCRIBED FORM AND ACCOMPANIED BY BID SECURITY AS PRESCRIBED IN THE INSTRUCTIONS TO BIDDERS, PAYABLE TO THE CITY OF KEY WEST, FLORIDA, IN AN AMOUNT NOT LESS THAN FIVE (5) PERCENT OF THE AMOUNT BID.

For information concerning the proposed work please contact Karen Olson, Deputy Director, Port and Marine Services by email at kolson@cityofkeywest-fl.gov. Verbal communications, per the City's "Cone of Silence" ordinance are not allowed.

As stated above at the time of the BID submittal the Bidder must provide satisfactory documentation of State Licenses. The Bidder shall furnish documentation showing that he is in compliance with the licensing requirements of County, and City licenses as would be required within ten days of the award. The successful Bidder must also be able to satisfy the City Attorney as to such insurance coverage and legal requirements as may be demanded by the Proposal in question. The CRA may reject BID for any and/or all of the following reasons: (1) for budgetary reasons, (2) if the proposer misstates or conceals a material fact in its bid, (3) if the proposal does not strictly conform to the law or is non-responsive to the bid requirements, (4) if the proposal is conditional, or (5) if a change of circumstances occurs making the purpose of the proposal unnecessary to the CRA. (6) if such rejection is in the best interest of the CRA. The CRA may also waive any minor formalities or irregularities in any proposal.

The CRA retains the right to award bid to the bidder that best meet the needs of the City.

* * * * * *

INSTRUCTIONS TO BIDDERS

1. CONTRACT DOCUMENTS

A. FORMAT

The Contract Documents are divided into parts, divisions, and sections for convenient organization and reference. Generally, there has been no attempt to divide the Specification sections into work performed by the various building trades, work by separate subcontractors, or work required for separate facilities in the Project.

B. DOCUMENT INTERPRETATION

Separate sections contained within these Contract Documents are intended to be mutually cooperative and provide all details reasonably required for the execution of proposed work.

Should there be any doubt as to the meaning or intent of said Contract Documents, the Bidder should request of the Deputy Port and Marine Services Director, in writing (at least **8** calendar days prior to Bid opening (**October 29th**)) an interpretation thereof. Any interpretation or change in said Contract Documents will be made only in writing in the form of Addenda to the Documents, which will be furnished to all registered holders of Contract Documents. Bidders shall submit with their Bids, or indicate receipt of all Addenda. The Owner will not be responsible for any other explanation or interpretations of said Documents.

2. SCOPE OF SERVICES

Provide all material and equipment required per the attached design documents and technical specifications.

3. REQUIRED QUALIFICATIONS

The prospective Proposers must meet the statutorily prescribed requirements before award of Contract by the CRA. Proposers must hold or obtain all licenses and/or certificates as required by the State and Local Statutes in order to bid and perform the work specified herein.

4. BIDDER'S UNDERSTANDING

Each Proposer must inform himself of the conditions relating to the execution of the work and make himself thoroughly familiar with all the Contract Documents. Failure to do so will not relieve the successful Proposer of his obligation to enter into a Contract and complete the contemplated work in strict accordance with the Contract Documents.

Each Proposer shall inform himself of, and the Proposer awarded a Contract shall comply with, federal, state, and local laws, statutes, and ordinances relative to the execution of the work. This requirement includes, but is not limited to, applicable regulations concerning minimum wage rates, nondiscrimination in the employment of labor, protection of public and employee safety and health, environmental protection, the protection of natural resources, fire protection, permits, fees, and similar subjects.

5. TYPE OF BID

UNIT PRICE

The Proposal for the work is to be submitted on a unit price basis. All items required to complete the work specified or shown on the Drawings but not included in the Proposal shall be considered incidental to those set forth in the Proposal. Payment to the Contractor will be made on the measurement of the work actually performed by the Contractor, as specified in the Contract Documents.

The Bidder further proposes to accept as full payment for the Work proposed herein, the amounts computed under the provisions of the Contract Documents and based on the following unit price amounts. The Bidder agrees that the unit prices include all allowances for overhead and profit for each type and unit of work called for in these Contract Documents.

Total allowable cost for Mobilization, General/Supp Conditions and Demobilization (bid schedule line item 1) shall be 10% maximum of total construction costs (bid schedule line items 3 through 21).

6. PREPARATION OF BIDS

A. GENERAL

All blank spaces in the BID form must be filled in for all schedules and associated parts, as required, preferably in BLACK INK. All price information shall be clearly shown in both words and figures where required. No changes shall be made in the phraseology of the forms. Written amounts shall govern in case of discrepancy between the amounts stated in writing and the amounts stated in figures. In case of discrepancy between unit prices and extended totals, unit prices shall prevail.

Any BID shall be deemed informal which contains omissions, erasures, alterations, or additions of any kind, or prices uncalled for, or in which any of the prices are obviously unbalanced, or which in any manner shall fail to conform to the conditions of the published Invitation to BID.

Only one BID from any individual, firm, partnership, or corporation, under the same or different names, will be considered. Should it appear to the Owner that any Bidder is interested in more than one BID for work contemplated; all Bids in which such Bidder is interested will be rejected.

B. SIGNATURE

The Bidder shall sign his BID in the blank space provided therefor. If Bidder is a corporation, the legal name of the corporation shall be set forth above together with the signature of the officer or officers authorized to sign Contracts on behalf of the corporation. If Bidder is a partnership, the true name of the firm shall be set forth above together with the signature of the partner or partners authorized to sign Contracts in behalf of the partnership. If signature is by an agent, other than an officer of a corporation or a member of a partnership, a notarized power-of-attorney must be on file with the Owner prior to opening of Bids or submitted with the Bid otherwise the Bid will be regarded as not properly authorized.

C. SPECIAL BIDDING REQUIREMENTS

The Bidder shall submit with his Bid his experience record showing his experience and expertise in generator/ equipment installations and related work. Such experience record shall provide at least five current or recent projects of similar work, not more than 5 years old within the State Florida and preferably Monroe County. For each project the following information shall be provided:

1. Description and location of work.
2. Contract amount.
3. Dates work was performed.
4. Owner.
5. Name of Owner's contact person and phone number.
6. Engineer.
7. Name of Engineer's contact person and phone number.

The bidder shall submit at least 3 references from the above work experience.

D. ATTACHMENTS

Bidder shall complete and submit the following forms with his bid:

1. Anti-Kickback Affidavit
2. Public Entity Crimes Form
3. City of Key West Indemnification Form
4. Equal Benefits for Domestic Partners Affidavit
5. Cone of Silence
6. Local Vendor Certification
7. Non-Collusion Affidavit
8. Proof of Required Insurance

7. MODIFICATION OR WITHDRAWAL OF BID

Prior to the time and date designated for receipt of Bids, any Bid submitted may be withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder or by telegram. If by telegram, written confirmation over the signature of the Bidder shall be mailed and postmarked on or before the date and time set for receipt of Bids. No Bid may be withdrawn after the time scheduled for opening of Bids unless the time specified in paragraph AWARD OF CONTRACT of these Instructions to Bidders shall have elapsed.

8. BID SECURITY

BIDS must be accompanied by cash, a certified check, or cashier's check drawn on a bank in good standing, or a bid bond issued by a Surety authorized to issue such bonds in the state where the work is located, in the amount of five (5) percent of the total amount of the Proposal submitted. This bid security shall be given as a guarantee that the Bidder will not withdraw his BID for a period of ninety (90) days after bid opening, and that if awarded the Contract, the successful Bidder will execute the attached Contract and furnish properly executed Performance and Payment Bonds, each in the full amount of the Contract price within the time specified. Agent and Surety phone numbers must be provided.

The Attorney-in-Fact who executes this bond in behalf of the Surety must attach a notarized copy of his power-of-attorney as evidence of his authority to bind the Surety on the date of execution of the bond. Where State Statute requires, certification by a resident agent shall also be provided.

If the Bidder elects to furnish a Bid Bond, he shall use the Bid Bond form bound herewith, or one conforming substantially thereto in form and content.

9. AWARD OF CONTRACT

Within 120 calendar days after the opening of Bids the CRA will accept one or more of the Bids. The acceptance of the Bid will be by written notice of award mailed to the office designated in the Bid or delivered to the Bidder's representative.

The CRA reserves the right to accept or reject any or all Bids and to waive any formalities and irregularities in said Bids.

10. BASIS OF AWARD

The award will be made by the Owner on the basis of the BID from the lowest, responsive, responsible BIDDER which, in the Owner's sole and absolute judgment will best serve the interest of the Owner.

11. EXECUTION OF CONTRACT

The successful Bidder shall, within 10 working days after receiving Notice of Award, sign and deliver to the Owner a Contract in the form hereto attached together with the insurance certificate examples of the bonds as required in the Contract Documents and evidence of holding required licenses and certificates. Within 10 working days after receiving the signed Contract from the successful Bidder, the Owner's authorized agent will sign the Contract. Signature by both parties constitutes execution of the Contract.

12. CONTRACT BONDS

A. PERFORMANCE AND PAYMENT BONDS

The successful Bidder shall file with the CITY, at the time of delivery of the signed Contract, a Performance Bond and Payment Bond on the form bound herewith, each in the full amount of the Contract price in accordance with the requirements of Florida Statutes Section 255.05 or 713.23, as applicable, as security for the faithful performance of the Contract and the payment of all persons supplying labor and materials for the construction of the work, and to cover all guarantees against defective workmanship or materials, or both, during the warranty period following the date of final acceptance of the work by the CITY. The Surety furnishing this bond shall have a sound financial standing and a record of service satisfactory to the CITY, shall be authorized to do business in the State of Florida, and shall be listed on the current U.S. Department of Treasury Circular Number 570, or amendments thereto in the Federal Register, of acceptable Sureties for federal projects. The CONTRACTOR shall supply the OWNER with phone numbers, addresses, and contacts for the Surety and their agents. Pursuant to Section 255.05(7), Florida Statutes, in lieu of the bond

required by law, the contractor may file with the city an alternative form of security in the form of cash, a money order, a certified check, a cashier's check or an irrevocable letter of credit.

B. POWER-OF-ATTORNEY

The Attorney-in-Fact (Resident Agent) who executes this Performance and Payment Bond in behalf of the Surety must attach a notarized copy of his power-of-attorney as evidence of his authority to bind the Surety on the date of execution of the bond. All Contracts, Performance and Payment Bonds, and respective powers-of-attorney will have the same date.

13. FAILURE TO EXECUTE CONTRACT AND FURNISH BOND

The Bidder who has a Contract awarded to him and who fails to promptly and properly execute the Contract or furnish the required Bonds shall forfeit the bid security that accompanied his bid, and the bid security shall be retained as liquidated damages by the CITY, and it is agreed that this said sum is a fair estimate of the amount of damages the CITY will sustain in case the Bidder fails to enter into a Contract or furnish the required Bonds. Bid security deposited in the form of cash, a certified check, or cashier's check shall be subject to the same requirement as a Bid Bond.

14. PUBLIC RECORDS REQUIREMENTS

In addition to other contract requirements provided by law, each public agency contract for services must include a provision that requires the contractor to comply with public records laws, specifically to (a) keep and maintain public records that ordinarily and necessarily would be required by the public agency in order to perform the service; (b) provide the public with access to public records on the same terms and conditions that the public agency would provide the records and at a cost that does not exceed the cost provided in this chapter or as otherwise provided by law; (c) ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law; and (d) meet all requirements for retaining public records and transfer, at no cost, to the public agency all public records in possession of the contractor upon termination of the contract and destroy any duplicate public records that exempt or confidential and exempt from public records disclosure requirements. All records stored electronically must be provided to the public agency in a format that is compatible with the information technology systems of the public agency. If a contractor does not comply with a public records request, the public agency shall enforce the contract provisions in accordance with the contract.

15. CERTIFICATES OF INSURANCE

Bidder agrees to furnish the Owner, before commencing the work under this Contract, the certificates of insurance as specified in these Documents.

16. TIME OF COMPLETION

The time of completion of the work to be performed under this Contract is the essence of the Contract. Delays and extensions of time may only be allowed in accordance with the provisions stated in the General Conditions. Time allowed for completion of the work authorized is stated in Bid.

When the Contractor receives a Notice to Proceed, he shall commence work as soon as possible and shall complete all work within the number of calendar days stipulated in the Contract.

The term of this contract will be ninety **(90)** calendar days. Consideration will be given for lead time on equipment purchase/ delivery.

17. PERMITS AND FEES

The Bidder awarded this project shall procure and pay all permits and licenses, charges, and fees, and give notices necessary and incidental to the due and lawful prosecution of the work, the cost of which shall be included in the fee received for the work, except where separately agreed.

* * * * *

BID FORM

To: City of Key West, Florida

Address: 1300 White Street, Key West, Florida 33040

Project Title: **MOBILE GENERATOR INSTALLATION**
KEY WEST BIGHT FERRY TERMINAL

Project No.: ITB #20-004

Bidder's person to contact for additional information on this Bid:

Company Name: _____

Contact Name & Telephone #: _____

Email Address: _____

BIDDER'S DECLARATION AND UNDERSTANDING

The undersigned, hereinafter called the Bidder, declares that the only persons or parties interested in this Bid are those named herein, that this Bid is, in all respects, fair and without fraud, that it is made without collusion with any official of the Owner, and that the Bid is made without any connection or collusion with any person submitting another Bid on this Contract.

The Bidder further declares that he has carefully examined the Contract Documents, that he has personally inspected the Project, that he has satisfied himself as to the quantities involved, including materials and equipment, and conditions of work involved, including the fact that the description of the quantities of work and materials, as included herein, is brief and is intended only to indicate the general nature of the work and to identify the said quantities with the detailed requirements of the Contract Documents, and that this Bid is made according to the provisions and under the terms of the Contract Documents, which Documents are hereby made a part of this Proposal.

The Bidder further agrees that the Owner may “non-perform” the work in the event that the low bid is in excess of available funding. Non-performance will be determined prior to Notice of Award.

The intent of the Bid Documents is to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any work, materials, or equipment that may reasonably be inferred from the Contract Documents, as being required to produce the intended result shall be supplied, whether or not specifically called for in the Contract Documents.

CERTIFICATES OF INSURANCE

CONTRACTOR is to secure, pay for, and file with the City of Key West, prior to commencing any work under the Contract, all certificates for workers’ compensation, public liability, and property damage liability insurance, and such other insurance coverages as may be required by specifications and addenda thereto, in at least the following minimum amounts with specification amounts to

prevail if greater than minimum amounts indicated. Notwithstanding any other provision of the Contract, the CONTRACTOR shall provide the minimum limits of liability insurance coverage as follows:

Auto Liability	$ 500,000	Combined Single Limit
General Liability	$ 500,000	Combined Single Limit
	$2,000,000	Products Aggregate
	$1,000,000	Any One Occurrence
	$1,000,000	Personal Injury
	$ 300,000	Fire Damage/Legal

CONTRACTOR shall furnish an original Certificate of Insurance indicating, and such policy providing coverage to, City of Key West named as an additional insured on a PRIMARY and NON CONTRIBUTORY basis utilizing an ISO standard endorsement at least as broad as CG 2010 (11/85) or its equivalent, (combination of CG 20 10 07 04 and CG 20 37 07 04, providing coverage for completed operations, is acceptable) including a waiver of subrogation clause in favor of City of Key West on all policies. CONTRACTOR will maintain the General Liability and Umbrella Liability insurance coverages summarized above with coverage continuing in full force including the additional insured endorsement until at least 3 years beyond completion and delivery of the work contracted herein.

Notwithstanding any other provision of the Contract, the CONTRACTOR shall maintain complete workers' compensation coverage for each and every employee, principal, officer, representative, or agent of the CONTRACTOR who is performing any labor, services, or material under the Contract. Further, CONTRACTOR shall additionally maintain the following minimum limits of coverage:

Bodily Injury Each Accident	$ 500,000
Bodily Injury by Disease Each Employee	$ 500,000
Bodily Injury by Disease Policy Limit	$ 500,000

If the work is being done on or near a navigable waterway, CONTRACTOR's workers compensation policy shall be endorsed to provide USL&H Act (WC 00 01 06 A) and Jones Act (WC 00 02 01 A) coverage if specified by the City of Key West. CONTRACTOR shall provide the City of Key West with a Certificate of Insurance verifying compliance with the workman's compensation coverage as set forth herein and shall provide as often as required by the City of Key West such certification which shall also show the insurance company, policy number, effective and expiration date, and the limits of workman's compensation coverage under each policy.

CONTRACTOR's insurance policies shall be endorsed to give 30 days written notice to the City of Key West in the event of cancellation or material change, using form CG 02 24, or its equivalent.

Certificates of Insurance submitted to the City of Key West will not be accepted without copies of the endorsements being requested. This includes additional insured endorsements, cancellation/material change notice endorsements, and waivers of subrogation. Copies of USL&H Act and Jones Act endorsements will also be required if necessary. PLEASE ADVISE YOUR INSURANCE AGENT ACCORDINGLY.

CONTRACTOR will comply with any and all safety regulations required by any agency or regulatory body including but not limited to OSHA. CONTRACTOR will notify City of Key West immediately by telephone at (305) 809-3811 any accident or injury to anyone that occurs on the jobsite and is related to any of the work being performed by the CONTRACTOR.

SURETY AND INSURER QUALIFICATIONS

All bonds, insurance contracts, and certificates of insurance shall be either executed by or countersigned by a licensed resident agent of the Surety or insurance company, having his place of business in the State of Florida, and in all ways complying with the insurance laws of the State of Florida. Further, the said Surety or insurance company shall be duly licensed and qualified to do business in the State of Florida.

START OF CONSTRUCTION AND CONTRACT COMPLETION TIME

The Bidder agrees to begin work within fourteen (14) calendar days after the date of the Notice to Proceed and to fully complete all work under this contract within ninety **(90)** calendar days. Consideration will be given for lead time on equipment purchase/ delivery.

LIQUIDATED DAMAGES

In the event the Bidder is awarded the Contract and fails to complete the work within the time limit or extended time limit agreed upon, as more particularly set forth in the Contract Documents, liquidated damages shall be paid to the Owner at the rate of **$250.00** per day for all work awarded until the work has been satisfactorily completed as provided by the Contract Documents. Sundays and legal holidays shall be excluded in determining days in default.

Owner will recover such liquidated damages by deducting the amount owed from the final payment or any retainage held by Owner.

ADDENDA

The Bidder hereby acknowledges that he has received Addenda No's. _____, _____, _____, _____. (Bidder shall insert No. of each Addendum received) and agrees that all addenda issued are hereby made part of the Contract Documents, and the Bidder further agrees that his Bid(s) includes all impacts resulting from said addenda.

SALES AND USE TAXES

The Bidder agrees that all federal, state, and local sales and use taxes are included in the stated bid prices for the work.

UNIT PRICE WORK ITEMS

The Bidder further proposes to accept as full payment for the Work proposed herein the amounts computed under the provisions of the Contract Documents and based on the following unit price amounts.

The Bidder agrees that the unit price represent a true measure of labor and materials required to perform the Work, including all allowances for overhead and profit for each type of work called

for in these Contract Documents. The amounts shall be shown in both words and figures. In case of discrepancy, the amount shown in words shall govern.

* * * * *

BID SCHEDULE

MOBILE GENERATOR INSTALLTION
KEY WEST BIGHT FERRY TERMINAL

UNIT PRICE BID
Bid unit prices stated in this proposal include all costs and expenses for labor, equipment, materials, disposal and contractor's overhead and profit. Unit prices for the various work items are intended to establish a total price for completing the project in its entirety. All work and incidental costs shall be included for payment under the several scheduled items of the overall contract, and no separate payment will be made therefore.

1. Mobilization / Demobilization (10% maximum)

1 LS $_____

2. Permit Fees (to be paid at cost)

1 LS $**7,500.00**

3. Payment and Performance Bonds

1 LS $_____

4. Demolition (includes all labor, equipment and disposal for a complete product)

1 LS $_____

5. 230 KW Mobile Generator (includes all labor and equipment for a complete product)

1 LS $_____

6. Generator Portable Cables (10 sets w/ camlocks)

1 LS $_____

7. 800A Generator Connection Box Nema 4X (includes all labor and equipment for a complete product)

1 LS $_____

8. 800A ATS Nema 4X (includes all labor and equipment for a complete product)

1 LS $_____

9. Stainless Steel Pull Box Nema 4X (includes all labor and equipment for a complete product)

1 LS $_____

10. Railing around new ATS (includes all labor and equipment for a complete product)

1 LS $_____

11. PP2 Access Platform (includes all labor and equipment for a complete product)

1 LS $_____

12. 3" Conduit Sch. 40 PVC (includes all labor, equipment for a complete product)

390 LF Unit Price/LF $_____ TOTAL $_____

13. 1" Conduit Sch. 40 PVC (includes all labor, equipment for a complete product)

290 LF Unit Price/LF $_____ TOTAL $_____

14. 300 KCmil RHW/USE (includes all labor, equipment for a complete product)

1,560 LF Unit Price/LF $_____ TOTAL $_____

15. #1/0 awg RHW/USE (includes all labor, equipment for a complete product)

1,560 LF Unit Price/LF $_____ TOTAL $_____

16. #14 awg TWHN (includes all labor, equipment for a complete product)

140 LF Unit Price/LF $_____ TOTAL $_____

17. #10 awg TWHN (includes all labor, equipment for a complete product)

540 LF Unit Price/LF $_____ TOTAL $_____

18. #8 awg TWHN (includes all labor, equipment for a complete product)

120 LF Unit Price/LF $_____ TOTAL $_____

19. 20A, 1 pole breaker (includes all labor, equipment for a complete product)

4 EA Unit Price/EA $_____ TOTAL $_____

20. 20A, GFCI Receptacle (includes all labor, equipment for a complete product)

2 EA Unit Price/EA $_____ TOTAL $_____

21. Allowance (only to be used with Owner's written direction)

1 LS $**20,000.00**

TOTAL OF ALL EXTENDED LINE ITEMS LISTED ABOVE:

Total of lump sum items 1 - 21 $_____

_____Dollars & _____Cents
(amount written in words)

NOTE: THE TOTAL BID WILL BE THE BASIS OF EVALUATING LOW BIDDER AND BASIS OF AWARD

The intent of these Documents is to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any work, materials, or equipment that may reasonably be inferred from the Contract Documents, as being required to produce the intended result shall be supplied whether or not specifically called for.

CONTRACTOR'S PROJECTED OPERATIONS LOAD AND COST ESTIMATE

List items to be performed by Contractor's own forces and the estimated total cost of these items. (Use additional sheets if necessary.)

SUBCONTRACTORS

The Bidder further proposes that the following subcontracting firms or businesses will be awarded subcontracts for the following portions of the work in the event that the Bidder is awarded the Contract:

_____
Portion of Work

_____
Name

_____, _____, _____, _____
Street City State Zip

_____
Portion of Work

_____
Name

_____, _____, _____, _____
Street City State Zip

_____
Portion of Work

_____
Name

_____, _____, _____, _____
Street City State Zip

_____
Portion of Work

_____
Name

_____, _____, _____, _____
Street City State Zip

SURETY

_____whose address is

_____, _____, _____, _____
Street City State Zip

_____ _____
Phone Resident Agent

BIDDER

The name of the Bidder submitting this Bid is _____

_____doing business at

_____, _____, _____, _____
Street City State Zip

_____
email address

which is the address to which all communications concerned with this Bid and with the Contract shall be sent.

The names of the principal officers of the corporation submitting this Bid, or of the partnership, or of all persons interested in this Bid as principals are as follows:

Name	Title
_____	_____
_____	_____
_____	_____
_____	_____

If Sole Proprietor or Partnership

IN WITNESS hereto the undersigned has set his (its) hand this _____ day of _____ 20___.

_____
Signature of Bidder

_____
Title

If Corporation

IN WITNESS WHEREOF the undersigned corporation has caused this instrument to be executed and its seal affixed by its duly authorized officers this ___ day of _____ 20__.

(SEAL)

_____
Name of Corporation

By _____

Title_____

Attest _____
Secretary

EXPERIENCE OF BIDDER

The Bidder states that he is an experienced Contractor and has completed similar projects within the last five (5) years.

(List similar projects, with types, names of owners, construction costs, Engineers, and references with phone numbers. Use additional sheets if necessary.)

* * * * * *

FLORIDA BID BOND

BOND NO. _____

AMOUNT: $_____

KNOW ALL MEN BY THESE PRESENTS, that _____

_____

hereinafter called the PRINCIPAL, and _____

_____

a corporation duly organized under the laws of the State of _____

having its principal place of business at _____

_____in the State of _____,

and authorized to do business in the State of Florida, as SURETY, are held and firmly bound unto

_____

hereinafter CITY OF KEY WEST called the OBLIGEE, in the sum of_____

_____ _____ DOLLARS ($_____) for the payment for which we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these present.

THE CONDITION OF THIS BOND IS SUCH THAT:

WHEREAS, the PRINCIPAL is herewith submitting his or its Bid Proposal for **ITB #20-004 Mobile Generator Installation– Key West Bight Ferry Terminal**, said Bid Proposal, by reference thereto, being hereby made a part hereof.

WHEREAS, the PRINCIPAL contemplates submitting or has submitted a bid to the OBLIGEE for the furnishing of all labor, materials (except those to be specifically furnished by the CITY), equipment, machinery, tools, apparatus, means of transportation for, and the performance of the work covered in the Proposal and the detailed Specifications, entitled:

ITB #20-004

MOBILE GENERATOR INSTALLTION

KEY WEST BIGHT FERRY TERMINAL

WHEREAS, it was a condition precedent to the submission of said bid that a cashier's check, certified check, or bid bond in the amount of 5 percent of the base bid be submitted with said bid as a guarantee that the Bidder would, if awarded the Contract, enter into a written Contract with the CITY for the performance of said Contract, within 10 working days after written notice having been given of the award of the Contract.

NOW, THEREFORE, the conditions of this obligation are such that if the PRINCIPAL within 10 consecutive calendar days after written notice of such acceptance, enters into a written Contract with the OBLIGEE and furnishes the Performance and Payment Bonds, each in an amount equal to 100 percent of the base bid, satisfactory to the CITY, then this obligation shall be void; otherwise the sum herein stated shall be due and payable to the OBLIGEE and the Surety herein agrees to pay said sum immediately upon demand of the OBLIGEE in good and lawful money of the United States of America, as liquidated damages for failure thereof of said PRINCIPAL.

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

By_____
PRINCIPAL

_____
SURETY

By _____
Attorney-In-Fact

ANTI-KICKBACK AFFIDAVIT

STATE OF _____)

: SS

COUNTY OF _____)

I, the undersigned hereby duly sworn, depose and say that no portion of the sum herein bid will be paid to any employees of the City of Key West as a commission, kickback, reward or gift, directly or indirectly by me or any member of my firm or by an officer of the corporation.

By:_____

Sworn and subscribed before me this _____ day of _____20___.

NOTARY PUBLIC, State of Florida at Large

My Commission Expires:

* * * * * *

SWORN STATEMENT UNDER SECTION 287.133(3)(A)
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICER AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted with Bid or Proposal for _____

_____

2. This sworn statement is submitted by_____
(name of entity submitting sworn statement)

whose business address is _____

_____

and (if applicable) its Federal Employer Identification Number (FEIN) is_____

_____

(If the entity has no FEIN, include the Social Security Number of the individual

signing this sworn statement _____

3. My name is _____
(please print name of individual signing)

and my relationship to the entity named above is _____

4. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including but not limited to, any bid or contract for goods or services to be provided to any public or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, material misrepresentation.

5. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication guilt, in any federal or state trial court of record relating to charges brought by indictment information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

6. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means

    1. A predecessor or successor of a person convicted of a public entity crime; or

    2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

7. I understand that a "person" as defined in Paragraph 287.133(1)(8), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

8. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. (Please indicate which statement applies).

____Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, nor any affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989, AND (Please indicate which additional statement applies.)

_____There has been a proceeding concerning the conviction before a hearing of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer did not place the person or affiliate on the convicted vendor list. (Please attach a copy of the final order.)

_____The person or affiliate was placed on the convicted vendor list. There has been a subsequent proceeding before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer determined that it was in the public interest to remove the person or
affiliate from the convicted vendor list. (Please attach a copy of the final order.)

_____The person or affiliate has not been put on the convicted vendor list. (Please describe any action taken by or pending with the Department of General Services.)

_____
(signature)

_____
(date)

STATE OF_____

COUNTY OF_____

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

_____ who, after first being sworn by me, affixed his/her
(name of individual signing)

signature in the space provided above on this _____day of _____ , 20___.

My commission expires:

_____
NOTARY PUBLIC

CITY OF KEY WEST INDEMNIFICATION FORM

To the fullest extent permitted by law, the CONTRACTOR expressly agrees to indemnify and hold harmless the City of Key West, their officers, directors, agents and employees *(herein called the "indemnitees") from liabilities, damages, losses and costs, including but not limited to, reasonable attorney's fees and court costs, such legal expenses to include costs incurred in establishing the indemnification and other rights agreed to in this Paragraph, to persons or property, to the extent caused by the negligence, recklessness, or intentional wrongful misconduct of the CONTRACTOR, its Subcontractors or persons employed or utilized by them in the performance of the Contract. Claims by indemnitees for indemnification shall be limited to the amount of CONTRACTOR's insurance or $1 million per occurrence, whichever is greater. The parties acknowledge that the amount of the indemnity required hereunder bears a reasonable commercial relationship to the Contract and it is part of the project specifications or the bid documents, if any.

The indemnification obligations under the Contract shall not be restricted in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the CONTRACTOR under Workers' Compensation acts, disability benefits acts, or other employee benefits acts, and shall extend to and include any actions brought by or in the name of any employee of the CONTRACTOR or of any third party to whom CONTRACTOR may subcontract a part or all of the Work. This indemnification shall continue beyond the date of completion of the work.

CONTRACTOR: _____ SEAL:

Address

_____

Signature

_____

Print Name

_____

Title

DATE: _____

EQUAL BENEFITS FOR DOMESTIC PARTNERS AFFIDAVIT

STATE OF _____)

: SS

COUNTY OF _____)

I, the undersigned hereby duly sworn, depose and say that the firm of _____

_____

provides benefits to domestic partners of its employees on the same basis as it provides benefits to employees' spouses, per City of Key West Code of Ordinances Sec. 2-799.

By:_____

Sworn and subscribed before me this _____ day of _____ 20 ___.

NOTARY PUBLIC, State of Florida at Large

My Commission Expires:

* * * * * *

CONE OF SILENCE AFFIDAVIT

STATE OF _____)

: SS

COUNTY OF _____)

I, the undersigned hereby duly sworn, depose and say that all owner(s), partners, officers, directors, employees and agents representing the firm of _____ have read and understand the limitations and procedures regarding communications concerning City of Key West Code of Ordinances Sec. 2-773 Cone of Silence.

By: _____

Sworn and subscribed before me this

_____ day of _____ 20_____.

_____

NOTARY PUBLIC, State of _____ at Large

My Commission Expires: _____

NON-COLLUSION AFFIDAVIT

STATE OF FLORIDA)
:
SS COUNTY OF MONROE)

I, the undersigned hereby declares that the only persons or parties interested in this Proposal are those named herein, that this Proposal is, in all respects, fair and without fraud, that it is made without collusion with any official of the Owner, and that the Proposal is made without any connection or collusion with any person submitting another Proposal on this Contract.

By: _____

Sworn and subscribed before me this

_____ day of _____, 20__.

_____
NOTARY PUBLIC, State of Florida at Large

My Commission Expires: _____

LOCAL VENDOR CERTIFICATION
PURSUANT TO CITY OF KEY WEST CODE OF ORDINANCES SECTION 2-798

The undersigned, as a duly authorized representative of the vendor listed herein, certifies to the best of his/her knowledge and belief, that the vendor meets the definition of a "Local Business." For purposes of this section, "local business" shall mean a business which:

a. Principle address as registered with the FL Department of State located within 30 miles of the boundaries of the city, listed with the chief licensing official as having a business tax receipt with its principle address within 30 miles of the boundaries of the city for at least one year immediately prior to the issuance of the solicitation.

b. Maintains a workforce of at least 50 percent of its employees from the city or within 30 miles of its boundaries.

c. Having paid all current license taxes and any other fees due the city at least 24 hours prior to the publication of the call for bids or request for proposals.

- Not a local vendor pursuant to Code od Ordinances Section 2-798
- Qualifies as a local vendor pursuant to Code od Ordinances Section 2-798

If you qualify, please complete the following in support of the self-certification & submit copies of your County and City business licenses. Failure to provide the information requested will result in denial of certification as a local business.

Business Name Phone:

Current Local Address: Fax:
(P.O Box numbers may not be used to establish status)

Length of time at this address

_____ _____
Signature of Authorized Representative Date

STATE OF_____
COUNTY OF_____

The foregoing instrument was acknowledged before me this _____day of _____, 20___.
By_____, of_____
(Name of officer or agent, title of officer or agent) Name of corporation acknowledging)
or has produced_____as identification
(type of identification)

_____
Signature of Notary

_____
Print, Type or Stamp Name of Notary

_____
Title or Rank

Return Completed form with
Supporting documents to:
City of Key West Purchasing

BIDDER'S CHECKLIST

(Note: The purpose of this checklist is to serve as a reminder of major items to be addressed in submitting a bid and is not intended to be all inclusive. It does not alleviate the Bidder from the responsibility of becoming familiar with all aspects of the Contract Documents and Proper completion and submission of his bid.)

1. All Contract Documents thoroughly read and understood ☐

2. All blank spaces in Bid filled in black ink. ☐

3. Total and unit Prices added correctly. ☐

4. Addenda acknowledged. ☐

5. Subcontractors are named as indicated in the Bid. ☐

6. Experience record included. ☐

7. Bid signed by authorized officer. ☐

8. Bid Bond completed and executed, including power-of-attorney, dated the same date as Bid Bond. ☐

9. Bidder familiar with federal, state, and local laws, ordinances, rules and regulations affecting performance of the work. ☐

10. Bidder, if successful, able to obtain and/or demonstrate possession of required licenses and certificates within (10) ten days after receiving a Notice of Award. ☐

11. Bid submitted intact with the volume containing the Bidding Requirements, Contract Forms and Conditions of the Contract, one (1) original, two (2) USB drives. ☐

12. Bid Documents submitted in sealed envelope and addressed and labeled in conformance with the instructions in the Invitation to Bid. ☐

13. Anti-kickback Affidavit; Public Entity Crime Form; City of Key West Indemnification Equal Benefits for Domestic Partners Affidavit; Local Vendor Certification; Non-Collusion Affidavit; Proof of Required Insurance ☐

* * * * *

PART 2

CONTRACT FORMS

CONTRACT AGREEMENT

This Contract, made and entered into _____ day of _____ 20___, by and between the City of Key West, hereinafter called the "Owner", and _____, hereinafter called the "Contractor";

WITNESSETH:

The Contractor, in consideration of the sum to be paid him by the Owner and of the covenants and agreements herein contained, hereby agrees at his own proper cost and expense to do all the work and furnish all the materials, tools, labor, and all appliances, machinery, and appurtenances for **ITB #20-004 MOBILE GENERATOR INSTALLTION – KEY WEST BIGHT FERRY TERMINAL**

Key West, Florida to the extent of the Bid made by the Contractor, dated the _____ day of _____ , 20_____, all in full compliance with the Contract Documents referred to herein.

The BIDDING REQUIREMENTS, including the signed copy of the BID FORM, the CONTRACT FORMS, DRAWINGS and/or SUPPLEMENTAL INFORMATION (if any), are hereby referred to and by reference made part of this Contract as fully and completely as if the same were fully set forth herein and are mutually cooperative therewith.

In consideration of the performance of the work as set forth in these Contract Documents, the Owner agrees to pay to the Contractor the amount bid in the Bid as adjusted in accordance with the Contract Documents, or as otherwise herein provided, and to make such payments in the manner and at the times provided in the Contract Documents.

The Contractor agrees to complete the work within ninety **(90)** calendar days and to accept as full payment hereunder the amounts computed as determined by the Contract Documents and based on the said Bid.

The Contractor agrees to remedy all defects appearing in the work or developing in the materials furnished and the workmanship performed under this Contract during the warranty period after the date of final acceptance of the work by the Owner, and further agrees to indemnify and save the Owner harmless from any costs encountered in remedying such defects.

Liquidated Damages: The Contractor recognizes that time is of the essence and that the Owner will suffer financial loss if the Work is not completed within the dates specified in the paragraphs above, plus any extensions thereof allowed, in accordance with Article 58 of the General Conditions.

In the event the Contractor fails to complete the work within the time limit or extended time limit agreed upon, as more particularly set forth in the Contract Documents, liquidated damages shall be paid at a rate of **$250.00** per day. Sundays and legal holidays shall be included in determining days in default.

This contract will automatically expire upon completion of the project. Contractors warranty obligations remain in affect.

IN WITNESS WHEREOF, we, the parties hereto, each herewith subscribe the same this

_____ day of _____, A.D., 20__.

CITY OF KEY WEST

By_____
Gregory Veliz, City Manager

CONTRACTOR

By_____

Printed_____

Title_____

APPROVED AS TO FORM

_____
Attorney for Owner

* * * * * *

FLORIDA PERFORMANCE BOND

BOND NO._____

AMOUNT: $_____

KNOW ALL MEN BY THESE PRESENTS, that in accordance with Florida Statutes Section

255.05 _____

with offices at _____

hereinafter called the CONTRACTOR (Principal), and

_____

with offices at_____

a corporation duly organized and existing under and by virtue of the laws of the State of Florida, hereinafter called the SURETY, and authorized to transact business within the State of Florida, as SURETY, are held and firmly bound unto the **CITY OF KEY WEST,** hereinafter called the CITY (Obligee), in the sum of:

_____DOLLARS ($_____), lawful money of the United States of America, for the payment of which, well and truly be made to the CITY, the CONTRACTOR and the SURETY bind themselves and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:
WHEREAS, the CONTRACTOR has executed and entered into a certain Contract hereto attached, with the CITY, dated _____, 20__, to furnish at his own cost, charges, and expense all the necessary materials, equipment, and/or labor in strict and express accordance with said Contract and the Contract Documents as defined therein, all of which is made a part of said Contract by certain terms and conditions in said Contract more particularly mentioned, which Contract, consisting of the various Contract Documents is made a part of this Bond as fully and completely as if said Contract Documents were set forth herein;

NOW THEREFORE, the conditions of this obligation are such that if the above bounden CONTRACTOR:

1. Shall in all respects comply with the terms and conditions of said Contract and his obligation there under, including the Contract Documents (which include the scope of work and conditions as prepared by the CITY, invitation to bid, instructions to bidders, the CONTRACTOR'S bid as accepted by the above CITY, the bid and contract performance and payment bonds (Not required as part of this contract), and all addenda, if any, issued prior to the opening of bids), being made a part of this bond by reference, at the times and in the manner prescribed in the contract; and

2. Promptly makes payments to all claimants, as defined in Section 255.05(1), Florida Statutes, supplying PRINCIPAL with labor, materials, or supplies, used directly or indirectly by PRINCIPAL in the prosecution of the work provided for in the contract; and

3. Pays CITY all losses, costs, expenses, damages, attorney's fees, including appellate proceedings, injury or loss of whatever kind and however arising including, without limitation, delay damages to which said CITY may be subject by reason of any wrongdoing, misconduct, want of care or skill, negligence, failure of performance, breach, failure to petition within the prescribed time, or default, including patent infringements, on the part of said CONTRACTOR, his agents or employees, in the execution or performance of said Contract; and

4. Performs the guarantee of all work and materials furnished under the contract for the time specified in the contract, then this obligation shall be void; otherwise, to remain in full force and effect for the term of said Contract.

AND, the said Surety for value received, hereby stipulates and agrees that no change involving any extension of time, or addition to the terms of the Contract Documents, or to the work to be performed, or materials to be furnished there under shall affect said obligation of said Surety on this Bond, and the said Surety does hereby waive notice of any such changes, extension of time, alterations, or additions of the terms of the Contract Documents, or to the work.

Any action instituted by a claimant under this bond for payment must be in accordance with the notice and time limitation provisions in Section 255.05(2), Florida Statutes.

IN WITNESS WHEREOF, the above parties bonded together have executed this instrument

this _____ day of _____, 20__, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

By: _____

(SEAL)

ATTEST

SURETY

By: _____

(SEAL)

ATTEST

FLORIDA PAYMENT BOND

BOND NO._____

AMOUNT: $_____

KNOW ALL MEN BY THESE PRESENTS, that in accordance with Florida Statutes Section

255.05,_____

with offices at_____
hereinafter called the CONTRACTOR, (Principal), and

_____

with offices at _____

a corporation duly organized and existing under and by virtue of the laws of the State of _____

_____ , hereinafter called the SURETY, and authorized to transact business within the State of Florida, as SURETY, are held and firmly bound unto CITY OF KEY WEST**,** hereinafter called the City (Obligee), in the sum of:

_____DOLLARS(_____), lawful money of the United States of America, for the payment of which, well and truly be made to the CITY, and the CONTRACTOR and the SURETY bind themselves and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the CONTRACTOR has executed and entered into a certain Contract for

ITB #20-004 MOBILE GENERATOR INSTALLTION– KEY WEST BIGHT FERRY TERMINAL attached hereto, with

the CITY, dated_____

_____, 20__, to furnish at his own cost, charges, and expense the necessary materials, equipment, and/or labor in strict and express accordance with said Contract and the plans, drawings (if any), and specifications prepared by the CITY, all of which is made a part of said Contract by certain terms and conditions in said Contract more particularly mentioned, which Contract, consisting of the various Contract Documents specifically mentioned herein and relative hereto, is made a part of this Bond as fully and completely as if said Contract Documents were set forth herein.

NOW THEREFORE, the conditions of this obligation are such that if the above bounden CONTRACTOR shall in all respects comply with the terms and conditions of said Contract and his obligation thereunder, including the Contract Documents, which include Scope of work and conditions prepared by the CITY, invitation to bid, instructions to bidders, the

CONTRACTOR'S bid as accepted by the CITY, the bid and contract and payment bonds (Not required as part of this contract), and all addenda, if any, issued prior to the opening of bids), and further that if said CONTRACTOR shall promptly make payments to all persons supplying materials, equipment, and/or labor, used directly or indirectly by said CONTRACTOR or subcontractors in the prosecution of the work for said contract is accordance with Florida Statutes, Section 255.05 or Section 713.23, then this obligation shall be void; otherwise to remain in full force and effect for the term of said contract, including and all guarantee periods as specifically mentioned in said Contract Documents.

AND, the said SURETY for value received, hereby stipulates and agrees that no change involving any extension of time, or addition to the terms of the Contract or to the work to be performed, or materials to be furnished thereunder, or in the Contract Documents and specifications accompanying the said contract shall affect said obligation of said SURETY on this Bond, and the said SURETY does hereby waive notice of any such changes, extension of time, alternations, or additions of the terms of the Contract, or to the work, to the Contract Documents, or to the specifications.

Claimant shall give written notice to the CONTRACTOR and the SURETY as required by Section 255.05 or Section 713.23, Florida Statutes. Any action instituted against the CONTRACTOR or SURETY under this bond for payment must be in accordance with the notice and time limitation provisions in Section 255.05(2) or Section 713.23, Florida Statutes.

IN WITNESS WHEREOF, the above parties bounded together have executed this instrument

this _____ day of _____, 20__, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

By:_____

(SEAL)

ATTEST

SURETY

By:_____

(SEAL)

ATTEST

LICENSE REQUIREMENT AND COST

License required for this Project. Contractor must be general contractor or building contractor.

Cost Not To Exceed $410.00.

CITY OF KEY WEST BUSINESS LICENSE TAX RECEIPT

A City of Key West Business License Tax Receipt is required for this project. Contractor must be general contractor, building contractor or engineering contractor. Cost not to exceed $410.00.

City of Key West Business License Tax Receipt may be found on the city website.

http://www.keywestcity.com/egov/docs/1162843921181.htm

PART 3

SUPPLEMENTAL INFORMATION

SECTION 16050

BASIC ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: General administrative, procedural requirements, and installation methods for electrical installations specified in Division 16.

B. The Drawings are schematic and are not intended to show every detail of construction.

1. In general, conduits/raceways, transitions and offsets shown on Drawings indicate approximate locations in plan and elevation where the systems are intended to be run.

2. CONTRACTOR shall fully coordinate electrical Work with other trades to avoid interferences.

3. In the event of interferences, CONTRACTOR shall request clarification from ENGINEER in writing.

B. Related Documents: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Sections, apply to Work of this Section.

1.02 SUBMITTALS

A. Shop Drawings: Submit in accordance with requirements of Section 01340, Shop Drawings covering the items included under this Section of Work. Shop Drawing submittals shall include:

1. Submit product data covering the items included under this Section of Work.

B. Conforming to Construction Drawings: Submit a complete set of Drawings showing the locations of the piping, ductwork, etc., as actually installed. Such Drawings shall be submitted to ENGINEER on tracing cloth, mylar, or sepia paper from which blueprints can be obtained.

C. Operation and Maintenance Manuals: Submit operation and maintenance manuals for items included under this Section. Include following information for equipment items:

1. Description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers of replacement parts.

2. Manufacturer's printed operating procedures to include start-up, break-in, and routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; and summer and winter operating instructions.

3. Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions.

4. Servicing instructions and lubrication charts and schedules.

1.03 RECORD DOCUMENTS

A. CONTRACTOR shall submit, prior to final payment, Drawings conforming to construction records of systems it has installed. Vendor drawings shall be sized as manufacturers' standard.

1.04 QUALITY ASSURANCE

A. National Electrical Code: Comply with NFPA 70, National Electrical Code.

B. UL Compliance and Labeling: Use products and components labeled by UL.

1.05 PERMITS, INSPECTIONS, AND LICENSES

A. CONTRACTOR shall procure all necessary permits and licenses, observe and abide by all applicable laws, codes, regulations, ordinances, and rules of the State, territory, or political subdivision thereof, wherein Work is done, or any other duly constituted public authority, and further agrees to hold OWNER harmless from liability or penalty which might be imposed by reason of an asserted violation of such laws, codes, regulations, ordinances, or other rules.

1. Upon completion of Work, CONTRACTOR shall secure certificates of inspection from the inspector having jurisdiction and shall submit 3 copies of the certificates to OWNER. CONTRACTOR shall pay the fees for the permits, inspections, licenses, and certifications when such fees are required.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to Project properly identified with names, model numbers, types, grades, compliance labels, and other information needed for identification. Equipment shall be packaged to prevent damage during shipment, storage, and handling. Do not install damaged units; replace, and remove damaged units from Site.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.01 GENERAL ELECTRICAL INSTALLATION

A. Provide electrical materials and equipment enclosures appropriate for areas in which they are installed. Provide NEMA 4X equipment for outdoor equipment and NEMA 1 equipment for indoor equipment. An area designated by a name and elevation includes space bounded by floor, ceiling, and enclosing walls.

1. Exception: Provide manufacturer's standard construction for indoor or outdoor application where equipment is not manufactured to NEMA.

B. Coordinate with power company high voltage and/or low voltage metering requirements. Furnish, install, and connect metering equipment not furnished, installed or connected by power company.

C. Provide chases, slots, and openings in other building components during progress of construction, to allow for electrical installations.

D. Where mounting heights are not detailed or dimensioned, install systems, materials, and equipment to provide maximum headroom possible. Electrical gear shall be located above FEMA flood levels. Contractor shall provide platforms as necessary to provide access to electrical equipment.

E. Coordinate connection of electrical systems with exterior underground and overhead utilities and services. Comply with requirements of governing regulations, franchised service companies, and controlling agencies. Provide required connection for each service.

F. Install systems, materials, and equipment to conform with approved submittal data, including coordination Drawings, to greatest extent possible. Conform to arrangements indicated by Drawings recognizing that portions of Work are shown only in diagrammatic form. Where coordination requirements conflict with individual system requirements, refer conflict to ENGINEER.

G. Install systems, materials, and equipment level and plumb, parallel and perpendicular to other building systems and components where installed exposed in finished spaces.

H. As much as practical, connect equipment for ease of disconnecting with minimum of interference with other installations.

3.02 RACEWAY INSTALLATION

A. Outdoors, use the following materials:

1. Exposed Conduit: PVC Conduit.

2. Contractor shall provide PVC expansion fittings as required by the NEC.

3. Underground Direct Buried Conduit: PVC Conduit.

B. Indoors, use the following wiring materials:

1. Exposed Conduit: PVC Conduit.

C. Minimum size conduit shall be 1 inch unless shown otherwise.

D. Install expansion fittings in all exposed rigid nonmetallic conduit runs of 20 feet or more.

E. Install expansion/deflection fittings where conduit passes a building expansion joint or where conduits are attached to two structures joined by a concrete expansion joint.

F. Exposed Raceways: Install parallel and perpendicular to nearby surfaces or structural members and follow the surface contours as much as practical. Make bends and offsets so the inside diameter is not effectively reduced. Keep the legs of a bend in the same plane and the straight legs of offsets parallel. Conduits shall slope away from loads to keep moisture from entering the load. Run parallel or banked raceways together. Make bends in parallel or banked runs from the same centerline so that the bends are parallel. Factory elbows may be used in banked runs only where they can be installed parallel. This requires that there be a change in the plane of the run, such as from wall to ceiling and that the raceways be of the same size. In other cases, provide field bends for parallel raceways. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot water pipes. Install horizontal raceway runs above water and steam piping.

G. Space raceways, fittings, and boxes 0.25 inch from mounting surface. Spacers shall be one-piece construction of stainless steel, galvanized steel, PVC, ABS, or other noncorrosive material.

H. Join raceways with fittings designed and approved for the purpose and make joints tight. Where joints cannot be made tight, use bonding jumpers to provide electrical continuity of the raceway system. Where terminations are subject to vibration, use bonding bushings or wedges to assure electrical continuity. Where subject to vibration or dampness, use insulating bushings to protect conductors.

I. Install raceway sealing fittings in accordance with the manufacturer's written instructions. Locate fittings at suitable, approved, accessible locations and fill them with UL listed sealing compound. For concealed raceways, install each fitting in a flush metal box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings at the following points and elsewhere as indicated:

1. Where conduits enter or leave hazardous locations.

2. Where conduits enter or leave NEMA 4X areas.

3. Where conduits pass from warm locations to cold locations, such as the boundaries of refrigerated spaces and air-conditioned spaces.

4. Where required by the NEC.

J. Install electrical boxes in those locations which ensure ready accessibility to enclosed electrical wiring. Provide knockout closures to cap unused knockout holes where blanks have been removed.

K. Support exposed raceway within 1 foot of an unsupported box and access fittings. In horizontal runs, support at box and access fittings may be omitted where box or access fittings are independently supported and raceway terminals are not made with chase nipples or threadless box connectors.

L. Terminations: Where raceways are terminated with locknuts and bushings, align the raceway to enter squarely and install the locknuts with dished part against the box. Where terminating in threaded hubs, screw the raceway or fitting tight into the hub so the end bears against the wire protection shoulder. Where chase nipples are used, align the raceway so the coupling is square to the box and tighten the chase nipples so no threads are exposed.

M. Complete installation of electrical raceways before starting installation of conductors within raceways and prevent foreign matter from entering raceways by using temporary closure protection. Cap spare conduit.

N. Install pull wires in empty raceways: Use No. 14 AWG zinc-coated steel or monofilament plastic line having not less than 200-pound tensile strength. Leave not less than 12 inches of slack at each end of the pull wire.

3.03 WIRE AND CABLE INSTALLATION

A. Use pulling means including fish tape, cable, rope, and basket weave wire/cable grips which will not damage cables or raceways. Pull conductors simultaneously where more than one is being installed in same raceway. Use UL listed pulling compound or lubricant where necessary.

B. Keep branch circuit conductor splices to minimum. Splice feeders only where indicated. Use a standard kit. No splices are allowed for instrument and telephone cables except at indicated splice points.

C. Install splice and tap connectors which possess equivalent or better mechanical strength and insulation rating than conductors being spliced. Use splice and tap connectors which are compatible with conductor material and are UL listed as pressure type connectors.

D. Provide adequate length of conductors within electrical enclosures and train conductors to terminal points with no excess. Bundle multiple conductors, with conductors larger than No. 10 AWG cabled in individual circuits. Make terminations so there is no bare conductor at terminal.

E. Terminate power conductors at equipment using pressure-type terminals specifically designed for type of terminations to be made. Terminate no more than 2 conductors No. 8 AWG and smaller within the same pressure-type terminal. These 2 conductors shall be no more than 4 wire gauge sizes apart. Terminate no more than 1 conductor larger than No. 8 AWG within any pressure-type terminal.
   1. Exception: Power factor correction capacitor conductors may be terminated at the motor disconnect switch load terminals.

F. Seal wire and cable ends until ready to splice or terminate.

3.04 CUTTING AND PATCHING

A. Perform cutting, fitting, and patching of electrical equipment and materials required to uncover Work to provide for installation of ill-timed Work, remove and replace Work that is either defective or does not conform to requirements of Drawings.

B. Cut, remove, and legally dispose of selected electrical equipment, components, and materials as indicated including, but not limited to, removal of electrical items indicated to be removed and items made obsolete by new Work. Protect structure, furnishings, finishes, and adjacent materials not indicated or scheduled to be removed. Provide and maintain temporary partitions or dust barriers adequate to prevent spread of dust and dirt to adjacent areas.

C. Patch existing finished surfaces and building components using new materials matching existing materials.

END OF SECTION

SECTION 16075

ELECTRICAL IDENTIFICATION

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Identification of electrical materials, equipment, and installations. It includes requirements for electrical identification components including, but not limited to, the following:

1. Identification labeling for cables and conductors.
2. Operational instruction signs.
3. Warning and caution signs.
4. Equipment labels and signs.

1.02 SUBMITTALS

A. Shop Drawings: Submit in accordance with shop dawings covering the items included under this Section. Shop Drawing submittals shall include:

1. Product Data for each type of product specified.

PART 2 - PRODUCTS

2.01 ELECTRICAL IDENTIFICATION PRODUCTS

A. Colored Adhesive Marking Tape for Wires and Cables: Self-adhesive, vinyl tape not less than 3 mils thick by 1 inch to 2 inches in width.

B. Pre-tensioned Flexible Wraparound Colored Plastic Sleeves for Cable Identification: Flexible acrylic bands sized to suit raceway diameter and arranged to stay in place by pre-tensioned gripping action when coiled around the cable.

C. Wire/Cable Designation Tape Markers: Vinyl or vinyl-cloth, self-adhesive, wraparound, cable/conductor markers with pre-printed numbers and letter.

D. Aluminum, Wraparound Cable Marker Bands: Bands cut from 0.014-inch-thick aluminum sheet, fitted with slots or ears for securing permanently around wire or cable jacket or around groups of conductors. Provide for legend application with stamped letters or numbers.

E. Engraved, Plastic Laminated Labels, Signs, and Instruction Plates: Engraving stock melamine plastic laminate, 1/16 inch minimum thick for signs up to 20 square inches or 8 inches in

length; 1/8-inch thick for larger sizes. Engraved legend in white letters on black face and punched for mechanical fasteners.

F. Baked Enamel Warning and Caution Signs for Interior Use: Pre-printed aluminum signs, punched for fasteners, with colors, legend, and size appropriate to the location.

G. Exterior Metal-Backed Butyrate Warning and Caution Signs: Weather-resistant, nonfading, pre-printed cellulose acetate butyrate signs with 20-gauge galvanized steel backing, with colors, legend, and size appropriate to location. Provide 1/4-inch grommets in corners for mounting.

H. Fasteners for Plastic Laminated and Metal Signs: Self-tapping stainless steel screws or Number 10/32 stainless steel machine screws with nuts and flat and lock washers.

I. Cable Ties: Fungus-inert, self-extinguishing, one-piece, self-locking nylon cable ties, 0.18 inch minimum width, 50-pound minimum tensile strength, and suitable for a temperature range from minus 50 to 350 degrees F. Provide ties in specified colors when used for color coding.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Lettering and Graphics: Coordinate names, abbreviations, colors, and other designations used in electrical identification Work with corresponding designations specified or indicated. Install numbers, lettering, and colors as approved in submittals and as required by Code.

B. Wiring Standards:

1. 208/120 Volt, 3-Phase Power:

    a. Black.
    b. Red.
    c. Blue.
    d. White Neutral.
    e. Green Ground

2. 240/120 Volt, 1-Phase Power:

    a. Black.
    b. Red.
    c. White Neutral.
    d. Green Ground.

3. Control Wiring:

    a. Red - Control circuit wiring that is de-energized when the main disconnect is opened.

b. Yellow - Control circuit wiring that remains energized when the main disconnect is opened.

c. Blue - DC.

d. Green - Ground.

C. Use conductors with color factory applied entire length of conductors except as follows:

1. The following field applied color coding methods may be used in lieu of factory-coded wire for sizes larger than No. 10 AWG.

a. Apply colored, pressure-sensitive plastic tape in half-lapped turns for a distance of 6 inches from terminal points and in boxes where splices or taps are made. Apply last 2 laps of tape with no tension to prevent possible unwinding. Use 1-inch-wide tape in colors as specified. Do not obliterate cable identification markings by taping. Tape locations may be adjusted slightly to prevent such obliteration.

b. In lieu of pressure-sensitive tape, colored cable ties may be used for color identification. Apply 3 ties of specified color to each wire at each terminal or splice point starting 3 inches from the terminal spaced 3 inches apart. Apply with a special tool or pliers, tighten for snug fit, and cut off excess length.

D. Power Circuit Identification: Securely fasten identifying metal tags of aluminum wraparound marker bands to cables, feeders, and power circuits in vaults, pull boxes, junction boxes, manholes, and switchboard rooms with 1/4-inch steel letter and number stamps with legend to correspond with designations on Drawings. If metal tags are provided, attach them with approximately 55-pound test monofilament line or one-piece self-locking nylon cable ties.

E. Install wire/cable designation tape markers at termination points, splices, or junctions in each circuit. Circuit designations shall be as indicated on Drawings.

END OF SECTION

SECTION 16120

WIRES AND CABLES

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes the following:

1. Low-Voltage Wire and Cable.

1.02 SUBMITTALS

A. Shop Drawings: Submit shop drawings covering the items included under this Section. Include Shop Drawings of wires, cables, connectors, splice kits, and termination assemblies.

1.03 QUALITY ASSURANCE

A. UL Compliance: Provide components which are listed and labeled by UL. For cables intended for use in air handling space comply with applicable requirements of UL Standard 710, "Test Method for Fire and Smoke characteristics of cables used in Air Handling Spaces."

B. NEMA/ICEA Compliance: Provide components which comply with following standards:

1. NEMA WC 70-1999/ICEA S-95-658-1999, Nonshielded Power Cables Rated 2,000 Volts or Less for the Distribution of Electrical Energy.

C. IEEE Compliance: Provide components which comply with the following standard.

1. Standard 82, Test procedures for Impulse Voltage Tests on Insulated Conductors.

D. Labeling: Handwritten labels are not acceptable. All labels shall be machine printed on clear or opaque tape, stenciled onto adhesive labels, or typewritten onto adhesive labels. The font shall be at least 1/8 inch in height, block characters, and legible. The text shall be of a color contrasting with the label such that is may be easily read. If labeling tape is utilized, the font color shall contrast with the background. Patch panels shall exhibit workstation numbers or some type of location identifier, in sequential order, for all workstations or devices attached. Each Network cable segment shall be labeled at each end with its respective identifier.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Subject to compliance with specified requirements, manufacturers offering products which may be incorporated in Work include:

1. Low-Voltage Wire and Cable:

    a. American Insulated Wire Corp.
    b. General Cable.
    c. The Okonite Co.
    d. Southwire Co.

2. Connectors for Low-Voltage Wires and Cable Conductors:

   a. AMP.
   b. O-Z/Gedney Co.
   c. Square D Company.
   d. 3M Company.

2.02 LOW-VOLTAGE WIRES AND CABLES

A. Conductors: Provide stranded conductors conforming to ASTM Standards for concentric stranding, Class B. Construction of wire and cable shall be single conductor (1/c) unless multiconductor cable is shown by notation in form (x/c) where x indicates the number of separate insulated conductors per cable.

B. Conductor Material: Copper. Minimum size power wire shall be No. 12 AWG.

C. Insulation: Provide RHW/USE insulation for power conductors for 208V 3-phase circuits. Provide RHW/USE, XHHW, or THWN/THHN insulation for all other power circuits.

   1. Provide RHW, THHN/THWN, or XHHW insulation for grounding conductors installed in raceways.

   2. Provide THHN/THWN insulation for control conductors.

D. DLO Cable: Provide Diesel Locomotive Cable for temporary connections between generator and generator connection box.

2.03 CONNECTORS FOR LOW-VOLTAGE WIRES AND CABLES

A. Provide UL listed factory fabricated, solderless metal connectors of sizes, ampacity ratings, materials, types, and classes for applications and services indicated. Use connectors with temperature ratings equal to or greater than those of the wires upon which used.

END OF SECTION

SECTION 16130

RACEWAYS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Raceways for electrical wiring. Types of raceways in this Section include the following:

1. Rigid nonmetallic conduit.
2. Conduit bodies.

1.02 SUBMITTALS

A. Shop Drawings: Submit shop drawings covering the items included under this Section. Shop Drawing submittals shall include:

1. Product data for the following products:
   a. Conduit.

1.03 QUALITY ASSURANCE

A. Codes and Standards:

1. NEMA Compliance: Comply with applicable requirements of NEMA standards pertaining to raceways.

2. UL Compliance and Labeling: Comply with applicable requirements of UL standards pertaining to electrical raceway systems. Provide raceway products and components listed and labeled by UL, ETL, or CSA.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Subject to compliance with requirements, manufacturers offering products which may be incorporated in Work include:

1. Conduit:

   a. Allied Tube.
   b. Carlon.
   c. Johns Manville.
   d. Occidental Coatings.

e. Orangeburg.
f. Perma-Cote Industries.
g. Republic Steel.
h. Robroy Industries.
i. Steelduct Co.
j. Triangle Conduit.
k. Wheatland Tube.
l. Youngstown Sheet and Tube.

2.02 NONMETALLIC CONDUIT AND DUCTS

A. Rigid Nonmetallic Conduit (RNC): NEMA TC 2 and UL 651, Schedule 40 or 80 PVC.

B. PVC Conduit and Tubing Fittings: NEMA TC 3; match to conduit or conduit/tubing type and material.

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 16230

STANDBY DIESEL GENERATOR TRAILER

PART 1 - GENERAL

1.01 SUMMARY

A. The intent of this specification is to provide generator specifications for the City of Key West to purchase a new generator for that will be utilized at the Bight Ferry Terminal. The generator will be connected to an Automatic Transfer switch and will be automatically started upon loss of utility power.

B. Section Includes: Extent of diesel generator trailer, and is hereby defined to include, but not by way of limitation:

1. Diesel engine.
2. Trailer and Enclosure.
3. Engine starting system, including batteries, instrument control panel, protective housing, annunciator panel, exhaust silencer, wall thimble, and accessories.

C. Types of generator sets required for the Project include:

1. Portable Trailer Mounted Diesel Engine-Driven Generator.

D. Generator and fuel storage tank shall comply with all applicable sections of 2008 NFPA 30 and 2005 NFPA 110.

1.02 SUBMITTALS

A. Shop Drawings: Submit Shop Drawings covering the items included under this Section. Shop Drawing submittals shall include:

1. Product Data: Submit manufacturer's data on diesel engine-driven generator sets and components.
   a. Generator trailer dimensions.
   b. Generator trailer weight (wet and dry)
   c. Generator rating.
   d. Alternator rating.
   e. Generator Starting System Data:
      1) Battery size and ratings.
      2) Charging system capacity.
      3) Battery heater data.
      4) Battery warranty.
   f. Generator Control Panel Data:
      1) Layout.
      2) Wiring diagrams.
      3) Control interconnection.

4) Instrumentation.

g. Exhaust System Data:
   1) Muffler size.
   2) Decibel reduction curve.
   3) Fuel system data.

h. Cooling System Data:
   1) Radiator capacity.
   2) Cooling reduction capacity.

i. Enclosure Data:
   1) Materials.
   2) Size.
   3) Assembly/disassembly instructions.
   4) Door locations.
   5) Noise reduction.

j. Warranty data.

k. Accessory and miscellaneous equipment.

2. Wiring Diagrams: Submit wiring diagrams for diesel engine-driven generator units showing connections to electrical power panels, feeders, and ancillary equipment. Differentiate between portions of wiring that are manufacturer installed and portions that are field installed.
3. Agreement to Maintain: Prior to time of final acceptance, Installer shall submit 4 copies of an agreement for continued service and maintenance for 5 years of diesel engine-driven generator sets for OWNER's possible acceptance. Offer terms and conditions for furnishing parts and providing continued testing and servicing, including replacement of materials and equipment, for 1-year period with option for renewal of Agreement by OWNER.
4. Certifications: Provide diesel engine-driven generator sets certified test record of the following final production testing:
   a. Single-step load pickup.
   b. Transient and steady-state governing.
   c. Safety shutdown device testing.
   d. Voltage regulation.
   e. Rated power.
   f. Maximum power.
   g. Provide certified test record prior to engine-driven generator set being shipped from factory to Project location.

1.03 QUALITY ASSURANCE

A. Codes and Standards:
   1. NFPA Compliance: Comply with applicable requirements of NFPA 37, "Installation and Use of Stationary Combustion Engines and Gas Turbines," NFPA 99, "Standard for Health Care Facilities," and NFPA 101, "Code for Safety to Life from Fire in Buildings and Structures."
   2. UL Compliance: UL 486A, "Wire Connectors and Soldering Lugs for Use with Copper Conductors," UL 2200, "Standard for Safety for Stationary Engine Generator Assemblies," rated 600 volts or less.

3. ANSI/NEMA Compliance: Comply with applicable requirements of ANSI/NEMA MG1, "Motors and Generators," and MG2, "Safety and Use of Electric Motors and Generators."
4. IEEE Compliance: Comply with applicable portions of IEEE Standard 446, "IEEE Recommended Practice for Emergency and Standby Power Systems for Industrial and Commercial Applications."

PART 2 - PRODUCTS

2.01 MANUFACTURER / GENERATOR PROVIDER

A. Subject to compliance with specified requirements, manufacturers offering products which may be incorporated in Work include:
   1. Trailer Diesel Generator Sets:
      a. Caterpillar.
      b. Cummins.
      c. Or pre-approved equal.

2.02 GENERATOR SETS

A. The emergency generator set and accessories shall be of a type that complies with the National Electrical Code and all applicable state and local building codes and shall be UL listed per UL 2200 "Standard for Stationary Engine Generator Assemblies,".

B. A complete engine generator system shall be furnished and installed with fuel transfer pump, base mounted fuel tank, battery, battery charger, muffler, radiator, control panel, and all other accessories required for an operational system.

C. Except as otherwise indicated, provide manufacturer's standard diesel engine-driven generator set and auxiliary equipment as indicated by published product information, and as required for a complete installation. Generator set shall be rated to continuously power the total accumulated load and starting load shown on Schedule at 100 degrees F ambient temperature and at altitude where installed.

D. Diesel Engine: Provide a 4-cycle, compression ignition type engine for operation on a No. 2 domestic burner oil grade of petroleum fuel oil. The engine shall be equipped with fuel, lube oil and intake air filters; lube oil coolers, fuel transfer pump, fuel priming pump, and jacket water heater, 105°C/220°F gear driven water pump. . Engine operating speed shall not exceed 1,800 rpm and shall be controlled by a governor to maintain alternator frequency within plus or minus 3 Hertz of 60 hertz from no load to full load. Frequency shall recover to steady-state tolerance within 5 seconds after application of 90 percent rated load.

E. Generator
   1. The generator shall be a 208 volt, 3-phase, 60 hertz, single bearing, synchronous type, Permanent Magnet Generator (PMG) built to NEMA Standards. Epoxy impregnated Class F insulation shall be used on the stator and the rotor.
   2. The EPA Emissions standard for the generator shall be at minimum Tier 2 rated.

F. Starting System: Provide engine-generator unit with 12- or 24-volt, negative ground, starting system including positive engagement solenoid shift-starting motor, batteries, and 35-ampere, or greater, automatic battery charging alternator with solid-state voltage regulator. Mount batteries in a plastic- or epoxy-coated metal platform near the starter but not on the generator and coat battery terminals with an anti-oxidant. Generator sets rated 150 kW or less shall have a battery rated 650 amperes cold cranking at 0 degree F and 170 minutes reserve capacity by SAE Standard J-537. Larger generators shall have a battery rated either 220 ampere-hours or 900 amperes cold cranking, and 430 minutes reserve capacity. Batteries shall have a 12-month full warranty and 60-month prorated warranty.

G. Battery Charger: Provide a solid-state, current limiting, float-type battery charger with 5-ampere minimum capacity. Charger shall operate from 120-volt AC single phase, 60 hertz power and shall automatically keep batteries at full charge. Equip charger with ammeter and voltmeter.

H. Alternator: Provide a single bearing brushless, self-excited alternator with inherently regulated rotating rectifier exciter system or a revolving field design with a temperature compensated solid-state voltage regulator. Connect the alternator housing directly to the engine flywheel housing. Couple the alternator rotor directly to engine flywheel with a semi-flexible steel disk coupling.
   1. Provide windings with Class F insulation with epoxy impregnation and fungus-resistant coating. Temperature rise shall be as defined in NEMA Standard MG1-22.40.
   2. The alternator shall be capable of starting load given on Schedule with 35 percent maximum instantaneous voltage dip. Recovery to stable equation within plus or minus 5 percent of rated voltage shall occur within 3 seconds.

I. Engine Cooling Radiator: Provide a complete engine cooling system equipped with a radiator and blower type fan sized to maintain safe operation, 190 degrees F engine outlet water temperature at 100 degrees F maximum ambient temperature. The engine cooling system shall be filled with a solution of 50 percent ethylene glycol. On indoor mounted units, radiator shall be equipped with a duct adapter flange. An air duct with flexible connecting sections shall be provided between radiator duct flange and exhaust damper.

J. Coolant Jacket Heater: Provide a coolant jacket heater that operates when the generator in not operated. Heater shall be 120-volt AC single phase, 60 hertz power with a maximum of 16

K. Generator power output connections shall have 2 sets of camlock connections (load, load, load, neutral and ground) capable of handling camlocks with up to 4/0 DLO cables.

L. Power Distribution: Provide 4-position switch for easy selection of desired output voltage (480/277V 3-phase, 208/120V 3-phase, 240/120V 3-phase and 240/120V 1-phase).

M. Instrument Control Panel: Provide engine-generator unit with engine oil-pressure and water-temperature indicators, reset circuit breaker, static voltage regulator, voltage-adjusting rheostat, voltmeter, ammeter with phase selector switch with an OFF position, and with running time indicator and frequency meters. Select circuitry of plug-in design capable of quick replacement, and capable of accepting a plug-in device which allows maintenance to test control panel performance without operating the engine.

1. Provide a cranking limiter to open starting circuit in 45 to 90 seconds if engine has not started within that time or after a series of 3 or more cranking intervals separated by 2 or more rest periods.
2. Provide engine safety devices to shut unit down on high engine temperature, low oil pressure, overspeed, and overcrank. Provide, for each of these conditions, an alarm light and an unpowered, normally open contact for remote use. Provide an audible alarm with silence switch which is activated by any alarm condition.
3. Provide a relay with 2 normally open and 2 normally closed contacts rated 5A at 120 volts AC and which is energized when unit is running. Wire these contacts to terminal strips for remote use.
4. Provide a RUN-OFF-AUTO switch. In AUTO position unit shall start when a remote contact closes and stop when contact opens. In RUN position unit shall start and run until OFF position is selected.
5. Provide a remote start connection that can be quick connected to the automatic transfer switch.

2.03 TRAILER AND ENCLOSURE

A. A weatherproof sound attenuated type enclosure shall be provided mounted on a trailer to house the engine/generator/fuel tank and accessories. The enclosure shall be designed to perform without overheating in the ambient temperature.

B. The enclosure is to be in complete compliance with the National Electrical Code (NEC), and the National Fire Protection Association (NFPA) with regard to clearances around electrical equipment specified herein. The enclosure shall conform to the following construction and design criteria as set forth:

C. Trailer Dimensions:
   1. Generator trailer shall be stored in the City's parking garage during inclement weather. The maximum height of the generator on the trailer cannot exceed 94" high (including tires at full pressure).

D. As a minimum the enclosure shall provide an average 20dbA sound reduction as measured at 7-meters, 5-feet above grade level under free field conditions.

E. Enclosure shall be waterproof and the roof shall be peaked to allow drainage of rainwater.

F. Generator trailer shall be DOT approved to legally be trailered without additional modification.

G. Unit shall have sufficient guards to prevent entrance by small animals.
   1. Batteries shall be designed to fit inside enclosure and alongside the engine and shall be easily removable for service. Batteries under the generator are not acceptable.

H. Fuel System:
   1. Provide double-wall fuel tank mounted on same trailer as generator. Tank capacity shall be sufficient to run the generator for at least 18 hours at 100 percent capacity of the unit's rated output. The fuel tank shall be furnished with a local fuel site gauge, high and low level alarms,

low fuel shutdown. All necessary fuel supply and return lines shall be furnished pre-assembled to unit.

2.04 PERMANENT ENGINE-GENERATOR SET ACCESSORIES

A. Coolant Heater: Provide an engine coolant heater, of voltage indicated on Schedule, with thermostatic controls to maintain engine coolant at proper temperature to fulfill start-up requirements of NFPA 99. Coolant Heater shall be powered from same circuit from battery charger.

B. Circuit Breaker: A generator power circuit breaker shall be installed as a manual load circuit interrupter and an automatic overload and short circuit protection device.
   1. The circuit breaker shall be a solid-state trip type for all sizes rated 300 amp continuous and larger. Solid-state trip shall include Long-time, Short-time, and Instantaneous. Ground fault trip required on breakers 1,000 amps and above.
   2. Trip settings for all breakers shall be selected for the rating of the generator power circuit as indicated on Drawings or on Schedule.

PART 3 - EXECUTION

3.01 INSTALLATION OF DIESEL ENGINE-DRIVEN GENERATOR SETS

A. Generator Provider shall be responsible for delivering generator trailers to site and parking trailer in dedicated generator location.

B. Generator Provider shall make final connection of conductors to generator load circuit breaker.

C. Generator Provider shall coordinate with on-site Electrician for connection to generator connection box.

D. Install diesel engine-driven generator units as indicated, in accordance with equipment manufacturer's written instructions, and with recognized industry practices, to ensure that engine-generator units fulfill requirements. Comply with NFPA and NEMA standards pertaining to installation of engine-generator sets and accessories.

E. Coordinate with other work, including raceways, electrical boxes and fittings, fuel tanks, piping, and accessories, as necessary to interface installation of engine generator equipment work with other work.

F. Tighten connectors and terminals, including screws and bolts, in accordance with equipment manufacturer's published torque-tightening values for equipment connectors. Where manufacturer's torqueing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL Standards 486A and B, and the National Electrical Code.

3.02 GROUNDING

A. Provide equipment grounding connections for diesel engine-driven generator units as indicated. Tighten connections to comply with tightening torques specified in UL Standard 486A to ensure permanent and effective grounding.

3.03 FIELD QUALITY CONTROL

A. Start-up Testing:
   1. Engage local equipment manufacturer's representative to perform start-up and building load tests upon completion of installation, with ENGINEER in attendance; provide certified test record. Tests are to include the following:
      a. Check fuel, lubricating oil, and antifreeze in liquid-cooled models for conformity to manufacturer's recommendations under environmental conditions present.
      b. Test prior to cranking engine for proper operation, accessories that normally function while the set is in a standby mode. Accessories include: engine heaters, battery charger, generator strip heater, and remote annunciator.
      c. Check, during start- gases outside the building, cooling air flow, movement up test mode, for exhaust leaks, path of exhaust during starting and stopping, vibration during running, normal and emergency line-to-line voltage, and phase rotation.
      d. Test, by means of simulated power outage, automatic start-up by remote-automatic starting, transfer of load, and automatic shutdown. Prior to this test, adjust for proper system coordination, transfer switch timers. Monitor throughout the test, engine temperature, oil pressure, battery charge level, generator voltage, amperes, and frequency.
         1) On generating sets exceeding 50 kW, a starting load test is to be performed after installation. Voltage dip will be observed with a recording oscilloscope furnished by supplier for this test only. Voltage dip is defined as the peak-to-peak voltage minimum, at starting compared to the average peak-to-peak voltage with the starting load running. The difference shall be less than 35 percent of the running P-P voltage. Generator shall be tested under load for a minimum of 8 hours on site.
      e. Upon completion of installation, demonstrate capability and compliance of system with requirements. Where possible, correct malfunctioning units at Site, then retest to demonstrate compliance; otherwise, remove and replace with new units, and proceed with retesting. Initial testing and retesting to be at no cost to OWNER.

3.04 PERSONNEL TRAINING

A. Building Operating Personnel Training: Train OWNER's building personnel in procedures for starting-up, testing, and operating diesel engine-driven generator sets for a minimum of 8 hours. In addition, train OWNER's personnel in periodic maintenance of batteries.

TRAILER MOUNTED GENERATOR SCHEDULE

Site: Bight Ferry Terminal Building

Load: 800A service at Bight Ferry Terminal.

Voltage Starting Type: 208V, 3-phase

Accessories	Required	Remarks
Engine Cooling Radiator	Yes	
Primary Wires	Yes	25 feet
Coolant Heater	Yes	
Enclosure	Yes	

Sound Attenuation	Yes	
Battery Charger	Yes	
Fuel System	Yes	Double Wall

Minimum Generator Size: 230 kW *

*CONTRACTOR shall verify generator size by providing ENGINEER with calculations via Generator Manufacturer Software. The generator shall be capable of starting the entire load in a single step. Stated minimum does not release CONTRACTOR from successfully completing the load test.

END OF SECTION

SECTION 16238

TRANSFER SWITCHES

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Types of transfer switches required for the Project and include the following:
   1. Automatic transfer.

1.02 SUBMITTALS

A. Shop Drawings: Submit shop drawings covering the items included under this Section. Shop Drawing submittals shall include:
   1. Product Data: Submit manufacturer's data and installation instructions for electrical power transfer switches.
   2. Wiring Diagrams: Submit wiring diagrams for electrical transfer switches, and associated control diagrams showing connections to prime and alternate power sources, electrical load, and equipment components. Differentiate between portions of wiring that are manufacturer installed and portions that are field installed.

1.03 QUALITY ASSURANCE

A. Codes and Standards:
   1. UL Compliance: Comply with applicable requirements of UL 1008, "Automatic Transfer Switches," and UL 486A, "Wire Connectors and Soldering Lugs for Use with Copper Conductors." Provide transfer switches and components which are UL listed and labeled.
   2. NEMA Compliance: Comply with applicable requirements of NEMA Standards Pub/Nos. ICS 2, "Industrial Control Devices, Controllers and Assemblies," ICS 6 and 250, pertaining to transfer switches.
   3. NFPA Compliance: Comply with applicable requirements of NFPA 99, "Standard for Health Care Facilities," and NFPA 101, "Code for Safety to Life from Fire in Buildings and Structures," pertaining to transfer switches.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Subject to compliance with specified requirements, manufacturers offering products which may be incorporated in Work include:

1. Automatic Transfer Switches:
    a. ASCO
    b. Zenith
    c. ONAN

2.02 AUTOMATIC TRANSFER SWITCHES

A. The automatic transfer switch shall be housed in a NEMA 4X enclosure. There shall be permanently affixed to the interior side of the enclosure door both a data-plate that includes generator KVA/KW, fuel tank capacity, rated fuel consumption, serial and model number of generator set, and a 10-inch by 12-inch pocket for log sheet storage.

B. Automatic Transfer Switch: UL listed and 600 volt-rated with amperage rating shown on Drawings and shall be the mechanically held, electrically operated type rated for continuous duty in an unventilated sheet metal enclosure.

C. Switch shall be double throw, with an off position, having electrical operated normal-emergency positions inherently interlocked mechanically, and with main contacts mechanically attached to a common shaft. Main contacts shall be silver alloy wiping-action type. They shall be protected by arcing contacts.

D. Switch and Relay Contacts, Coils, Springs, and Control Elements: Removable from front of transfer switch without removal of the switch panels from enclosure and without disconnection of drive linkages or power conductors. Sensing and control relays shall be continuous duty industrial control type with 600 volt, 10 amp rated contacts.

E. Upon drop in normal voltage of 83-85 percent of rated voltage, and after an override delay of 3 seconds nominal, switch shall start generator and transfer the load to emergency source, provided emergency source voltage and frequency are 90 percent of rated or higher.

F. Upon return of normal source voltage for 5 seconds nominal, to 92-95 percent of rated, switch shall retransfer load to normal source after a minimum transfer time or if emergency source fails. Provide a 5- to 60-second adjustable time delay to maintain transfer switch in the "Off" position during transfer to either source.

G. Sensing relays shall operate without contact chatter or false response when voltage is slowly varied to dropout and pickup levels.

H. Four auxiliary contacts shall be provided: Two for transfer switch position indicating use, and two auxiliary contacts, one N.O. and one N.C. to operate after completion of the 3-second override delay for starting generator. All auxiliary contacts shall be 600 volt, 10 amp continuous rating.

I. The transfer switch shall be provided with the following features:
    1. Complete protection, close differential voltage sensing relays monitoring all 3-phases (pick up set for 95% of nominal voltage, dropout set for 85% nominal voltage).
    2. Voltage sensing relay on emergency source (pick up set for 95% of nominal frequency).
    3. Time delay on engine starting-adjustable from 1-second to 300-seconds (factory set at

3-second)

4. Time delay normal to emergency transfer-adjustable from zero second to 300-seconds (factory set at 1-second). The CONTRACTOR shall request time delay settings in accordance with the priority rating or their respective loads.
5. Time delay emergency to normal transfer-adjustable 30-seconds to 30-minutes (factory set at 5-minutes), and time delay bypass switch shall be provided on door of the switch cabinet.
6. Unload running time delay for emergency engine generator cooling down adjustable from zero to 5-minutes (factory set at 5-minutes) unless the engine generator control panel includes the cool down timer.

J. Accessory devices shall be provided as follows:
   1. Time delay to override harmless power dips and outages. (Inverse time characteristic with voltage.)
   2. Test switch.
   3. Auxiliary contacts (as specified herein).
   4. Selector relay (as specified herein).
   5. Lockout relay (sensitive to voltage and frequency).
   6. Full phase protection with nominal 75-80 percent dropout and 92-95 percent pickup on phase relay.
   7. Adjustable time delay on retransfer to normal source. Minimum retransfer of 2 minutes and maximum of 25 minutes. Built-in circuitry to nullify the retransfer time delay if the emergency source fails and the normal source is available.
   8. Adjustable (10-20 minutes) time delay for running generator unloaded after transfer for cool down.
   9. Adjustable time delay or delays (5 to 60 seconds) for holding transfer switch in the "Off" position when switching from standby source to normal and normal source to standby.
   10. Engine starting contact.
   11. Exerciser to exercise generator for 15 minutes every 168 hours. A selector switch shall permit generator to be exercised with or without load.

PART 3 - EXECUTION

NOT USED

END OF SECTION

SECTION 16239

GENERATOR CONNECTION BOX

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Types of transfer switches required for the Project and include the following:
   1. GENERATOR CONNECTION BOX.

1.02 SUBMITTALS

A. Shop Drawings: Submit shop drawings covering the items included under this Section. Shop Drawing submittals shall include:
   1. Product Data: Submit manufacturer's data and installation instructions for electrical Generator Connection Box.
   2. Wiring Diagrams: Submit wiring diagrams for generator connection box, and associated control diagrams showing connections to prime and alternate power sources, electrical load, and equipment components. Differentiate between portions of wiring that are manufacturer installed and portions that are field installed.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Subject to compliance with specified requirements, manufacturers offering products which may be incorporated in Work include:
   1. Automatic Transfer Switches:
      a. Trystar
      b. Powerlogics
      c. Or Pre-approved equal

2.02 Generator Connection Box

A. The generator connection box shall be be housed in a NEMA 4X enclosure and shall be wall mounted.

B. Shall have mechanical lugs capable of accepting 3 sets of 300 KCMIL conductors on the load side of the generator connection box.

C. Shall have camlok inputs on the generator side. Camlok inputs shall be capables of accepting 2 sets of camlok.

D. Male camlocks shall be color coordinated as follows:

1. Ground – Green
2. Neutral – White
3. Phase 1 – Black
4. Phase 2 – Red
5. Phase 3 - Blue

E. Generator Connection box shall be rated for 800A, 3 phase, 208/120 – volt.

F. Provide with the following options:

1. 120V, 20A duplex GFCI receptacle for battery charger.

2. 120V, 20A duplex GFCI receptacle for jacket coolant heater.

3. Remote Start Contacts.

PART 3 - EXECUTION

NOT USED

END OF SECTION

BACKGROUND PLAN AND ONE LINE SYMBOLS

SYMBOL	DESCRIPTION
CS	CONTROL SWITCH (SEL. OR P.B.) SEE CIRCUITS FOR SPECIFIC TYPE
F	SEE CIRCUITS FOR SPECIFIC TYPE FLOAT SWITCH
T	TEMPERATURE SWITCH OR RTD
L P V	LIMIT - PRESSURE - VACUUM SWITCH
ALT	ELECTRICAL OR MECHANICAL ALTERNATOR (SEE WIRING)
OS	OVERLOAD SWITCH OR DEVICE
TB	TERMINAL BOX
FS	FLOW SWITCH
PC	PHOTOCELL LINE VOLTAGE
MD	LOUVER DAMPER ACTUATOR
A WS LB	INTERCOMMUNICATION SYSTEM AMPLIFIER - WALL STATION - LINE BALANCE
DS	INTERCOMMUNICATION DESK SET
	INTERCOM. SPEAKER (SURFACE MTD.)
	INTERCOM. SPEAKER (CEILING LAY-IN)
	TELEPHONE OUTLET OR JUNCTION BOX
	WELDING RECEPTACLE - NEMA L9-50R 600V, 2P, 3W, SIMPLEX
HS	INTERCOM HANDSET - SURFACE MOUNTED WITH REMOTE SPEAKER AMPLIFIER
TS	THERMAL SWITCH
LOC	VFD LOCK OUT SWITCH
MSH	MOTOR SPACE HEATER
DS	DOOR INTRUSION SWITCH 24V CONTACT.
	AS NOTED (LIGHTING PANEL, CONTROL PANEL, DISTRIBUTION PANEL ETC.) WALL MOUNTED
JB	JUNCTION BOX
	HEATER
	TRANSFORMER
	CONDUIT WITH CONDUIT SEAL FITTING
	CONDUIT EXPOSED
	CONDUIT CONCEALED / UNDERGROUND
	GROUND
OE	OVERHEAD LINE
DB	CONCRETE ENCASED UNDERGROUND DUCT BANK
	COPPER-CLAD GROUND ROD
1 2 3 4 5 6	CONCRETE ENCASED DUCT BANK, WITH CABLE LOCATIONS AND SPARE DUCTS AS INDICATED ON DRAWINGS
	CABLE REEL
	HORN/STROBE (110CD)
	SOLENOID VALVE
SOV	ITEM NO. INTERCOM EQUIPMENT
ST	SHUNT TRIP PUSH BUTTON
C	CONTACTOR
50/51	MEDIUM VOLTAGE OVERLOAD REALY
AS	AMP SELECTOR SWITCH
AM	AMMETER
52 CS	MEDIUM VOLTAGE DRAWOUT BREAKER
E	EMERGENCY STOP
SL	SEAL LEAK

SYMBOL	DESCRIPTION
	LOW VOLTAGE DISCONNECT SWITCH
	LOW VOLTAGE FUSE (BELOW 600V)
1 RV 2 FVR 3 2S,2W	ALL STARTERS SHALL BE FULL VOLTAGE NON-REVERSING UNLESS OTHERWISE INDICATED (FVR) FULL VOLTAGE REVERSING (RV) REDUCED VOLTAGE (2S,2W) TWO SPEED, TWO WINDING
	600V, 3 POLE MOLDED CASE CIRCUIT BREAKER, FRAME & RATING AS SHOWN
1/2 A-3	SINGLE PHASE, FRACTIONAL HP MOTOR TO LOCATION INDICATED (SEE GEN. NOTE 4)
A 1	THREE PHASE LOAD WITH IDENTIFICATION
	HIGH VOLTAGE FUSE (ABOVE 600 V)
T1 1/2	TAG NO. (BALLOON) FOR DEVICE INDICATED
A-3 F1 1/2 MCP OR CP-1	FOR POWER (SEE GEN. NOTE 4) 3/4"C(2/C#18 SHLD.)CONDUIT AND WIRE RUN FROM DEVICE INDICATED TO LOCATION INDICATED
	CAPACITOR, 3 PHASE, SIZE AS INDICATED
F C 3P-100A 3P-100A	DISCONNECT SWITCH (F) = FUSED (C) = CIRCUIT BREAKER
	MAGNETIC STARTER (BACKGROUND DRAWINGS ONLY)
SIZE 2	COMBINATION MAGNETIC STARTER FUSED UNLESS NOTED (CIRCUIT BREAKER)
LC	COMBINATION LIGHTING CONTACTOR WITH HAND-OFF-AUTO SWITCH
R	MANUAL STARTER (R) = REVERSING
CP	CONTROL PANEL
TCP	TEMPERATURE CONTROL PANEL
1/8 UH-19	UNIT HEATER, 1/8 HORSEPOWER
BUS DUCT	600 VOLT FEEDER BUS DUCT (AMPERAGE AS INDICATED)
	LIGHTNING ARRESTOR
A-3	LOW VOLTAGE HOME RUNS 120/208 V 120/240 V (SEE GEN. NOTE 4)
NEMA 4	WATERTIGHT
NEMA 4X	WATERTIGHT AND CORROSION PROOF
NEMA 7	EXPLOSION PROOF - CLASS I, DIVISION I, GROUP D
NEMA 9	EXPLOSION PROOF - CLASS II, DIVISION 1
K	KEYLOCK
SD	SMOKE DETECTOR
EXIT	EXIT LIGHT
	FLUORESCENT LUMINAIRE
	INCANDESCENT LUMINAIRE
	HIGH INTENSITY DISCHARGE LIGHT
EM	EMERGENCY BATTERY PACK
HID	POLE MOUNTED SITE LIGHT FIXTURE
	STATION ARRESTOR
	SURGE ARRESTOR
K	KIRK KEY
SPD	SURGE PROTECTION DEVICE
VFD	VARIABLE FREQUENCY DRIVE
SS	SOLID STATE SOFT STARTER
M	LOW VOLTAGE MOTION SENSOR- DUAL TECHNOLOGY, CEILING MOUNTED
PP	LINE VOLTAGE SWITCH PACK WITH LOW VOLTAGE POWER SUPPLY FOR SENSORS

CONTROL CIRCUIT & PILOT DEVICE LEGEND

SYMBOL	DESCRIPTION
	PRESS. ACTUATED SWITCH
	FLOAT ACTUATED SWITCH
	FLOW ACTUATED SWITCH
	TEMP. ACTUATED SWITCH
	LIMIT SWITCH- NORMALLY OPEN
	LIMIT SWITCH- NORMALLY CLOSED
	LIMIT SWITCH-NORMALLY CLOSED-HELD OPEN
	LIMIT SWITCH-NORMALLY OPEN-HELD CLOSED
	LATCHING CABLE SWITCH
	TIME-DELAY FUSE
CR	CONTROL RELAY COIL
	CONTROL RELAY CONTACT-NORMALLY OPEN
	CONTROL RELAY CONTACT-NORMALLY CLOSED
CR L CR U	TWO COIL LATCHING RELAY
T	TIMING RELAY COIL
	TIMED CLOSED CONTACT ON ENERGIZATION
	TIMED OPEN CONTACT ON ENERGIZATION
	TIMED OPEN CONTACT ON DE-ENERGIZATION
	TIMED CLOSED CONTACT ON DE-ENERGIZATION
X1 X2	120 VAC TRANSFORMER

SYMBOL	DESCRIPTION
H A	SELECTOR SWITCH OPERATOR WITH FUNCTION SHOWN
	MOMENTARY PUSHBUTTON OPERATOR-NORMALLY OPEN
	MOMENTARY PUSHBUTTON OPERATOR-NORMALLY CLOSED
	PUSHBUTTON OPERATOR WITH MUSHROOM HEAD
(F)	FIELD LOCATED STOP BUTTON
	MAINTAINED PUSH-PULL OPERATOR
	MAINTAINED STOP-START PUSHBUTTON OPERATOR
	SOLENOID OR CLUTCH
R 1	PUSH-TO-TEST INDICATING LIGHT
	MAINTAINED STOP-MOMENTARY START PUSHBUTTON (JOG)
	ZERO SPEED OR ANTI-PLUGGING SWITCH
	LOCAL TERMINALS WITH EXTERNAL WIRING
ETI	ELAPSED TIME INDICATOR
INST. INST.	TIMING RELAY INSTANTANEOUS CONTACTS
M	MOTOR CONTACTOR

WIRING DEVICE SCHEDULE

SYMBOL	DESCRIPTION	NEMA TYPE
	125V, 2P, SIMPLEX, CLOCK HANGER	1-15 R
	208V, 3P, 4W RECEPTACLE	
	125V, 2P, DUPLEX, 3W	5-20 R
	125/250V, 3P, SIMPLEX, 3W, RANGE TYPE	10-50 R
S	20A, 120/277 V SWITCH	SPST
S 2P	20A, 120/277 V SWITCH	2PDT
S 3,a	20A, 120/277 V SWITCH 3-DESIGNATES 3-WAY SWITCHING, a-DESIGNATES CONTROLING "a" FIXTURES ONLY	3 WAY
S 4	20A, 120/277 V SWITCH	4 WAY
S D	20A, 120/277 V DIMMER SWITCH	
S M	20A, 120/277 V SWITCH - MOTOR RATED	SPST
	250V, 2P, SIMPLEX, 3W, 50A	6-50R
	125V, 2P, MULTI-RECEPTACLE	5-15R
	250V, 2P, SIMPLEX, 3W, 20A	6-20R
	600V, 2P, 3W, SIMPLEX WELDING	L9-50R
	208V, 3P, SIMPLEX, 4W, LOCKING	L14-20R
	277V, 2P, DUPLEX, 3W	7-15R

GENERAL NOTES:

1. ELECTRICAL MATERIALS AND EQUIPMENT ITEMS SHOWN IN LIGHT LINE WEIGHTS ON THE DRAWINGS ARE EXISTING ITEMS TO REMAIN. ELECTRICAL MATERIALS AND EQUIPMENT ITEMS SHOWN IN HEAVY LINE WEIGHTS ARE NEW UNDER THIS CONTRACT.
2. ITEMS SHOWN CROSSHATCHED ON THE DRAWINGS ARE EXISTING ITEMS TO BE REMOVED.
3. FOR ITEMS INDICATED AS "FIELD LOCATE" CHECK DRAWINGS OF OTHER TRADES (IN PARTICULAR PIPING AND STRUCTURAL) FOR INTERFERENCE AND FOR LOCATIONS OF MOUNTING FLANGES, CONNECTION POINTS, ETC.
4. INSTALL A SINGLE CONDUCTOR INSULATED (RHW, THHN, OR XHHW) COPPER GROUND WIRE IN EACH CONDUIT, SIZE AS SHOWN ON DRAWINGS OR AS A MINIMUM PER THE NATIONAL ELECTRICAL CODE. THIS GROUND WIRE SHALL BE CONNECTED AT EACH END TO THE EQUIPMENT GROUND.
5. THE FOLLOWING COMPONENT IDENTIFICATION SHALL BE USED AS APPROPRIATE:
   - (F) FIELD MOUNTED, NOT AT STARTER OR OTHER CONTROL PANELS.
   - (S) STARTER PANEL MOUNTED.
   - (PLC) AT MAIN CONTROL PANEL.
   - (MBRCP) AT CONTROL PANEL PROVIDED BY MBR MANUFACTURER.
   - (FSCP) AT CONTROL PANEL PROVIDED BY FINE SCREEN SYSTEM MANUFACTURER.
   - (TCP) AT TEMPERATURE CONTROL PANEL.
6. EQUIPMENT SHOWN INSIDE SHALL BE RATED NEMA 12 AND EQUIPMENT SHOWN OUTSIDE SHALL BE RATED NEMA 4X, STAINLESS STEEL UNLESS OTHERWISE INDICATED.
7. MINIMUM CONTROL WIRE SIZE SHALL BE EITHER #12 AWG MINIMUM, UNLESS OTHERWISE INDICATED.
8. MINIMUM CONDUIT SIZE SHALL BE 1", UNLESS OTHERWISE INDICATED. PROVIDE SCHEDULE 80 PVC. PROVIDE EXPANSION JOINTS EVERY 50' MINIMUM. PROVIDE STAINLESS STEEL SUPPORTS AND HANGERS FOR CONDUIT.
9. PROVIDE INSULATED CONDUCTORS PER SPECIFICATION 16120.
10. WIRE NUMBERS (1,3 & 5) ETC. SHALL BE PREFIXED WITH STARTER TAG NUMBERS. THE WIRE NUMBER AFTER THE PREFIX, MAY BE THE MANUFACTURERS WIRE NUMBERING SYSTEM. WIRE MARKERS MAY BE USED AT EACH WIRE TERMINATION POINT.
11. PROVIDE 316-STAINLESS STEEL FOR NEMA 4X AREAS, UNLESS NOTED OTHERWISE.
12. HOMERUNS SHALL BE MINIMUM 1"C(2#12, 1#12) UNLESS NOTED OTHERWISE.
13. ALL CONDUITS (INCLUDING POWER AND CONTROL CONDUITS) BELOW GRADE SHALL BE CONCRETE ENCASED.
14. CONTRACTOR SHALL VERIFY ALL CONDUIT SIZES MEET NEC CONDUIT FILL REQUIREMENTS.
15. PROVIDE SIGNAGE/PLACARD/TAGS AS INDICATED ON THE DRAWINGS DETAILS.
16. OUTSIDE EQUIPMENT MUST BE RATED FOR -40 TO 150 DEG F.
17. SPACE CONSTRAINTS: DRAWINGS SHOW THE LAYOUT OF GENERAL POWER AND CONTROLS EQUIPMENT WITH THE SPACE AVAILABLE FOR NEW EQUIPMENT. CONTRACTOR SHALL ASSUME THAT THE MARKED AREAS ARE THE BOUNDARIES FOR NEW EQUIPMENT PROVIDED UNDER THIS CONTRACT. CONTRACTOR IS RESPONSIBLE FOR SELECTING EQUIPMENT THAT WILL FIT WITHIN THE BOUNDARIES.
18. CONTRACTOR SHALL COORDINATE WITH UTILITY FOR CONNECTION TO UTILITY TRANSFORMER.
19. ALL NOTES APPLY TO ALL DRAWING SHEETS.
20. CONTRACTOR SHALL PROVIDE PVC EXPANSION FITTINGS PER NEC TO ACCOMMODATE THERMAL EXPANSION.

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Engineering Business No. 2429

DATE

MARK	DATE	DESCRIPTION	BY

CITY OF KEY WEST
KEY WEST BIGHT FERRY
GENERATOR MODIFICATIONS

ELECTRICAL LEGEND

Project No.:	200-67639-19003
Designed By:	JAS
Drawn By:	JAS
Checked By:	DAB

E-0

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Bar Measures 1 inch

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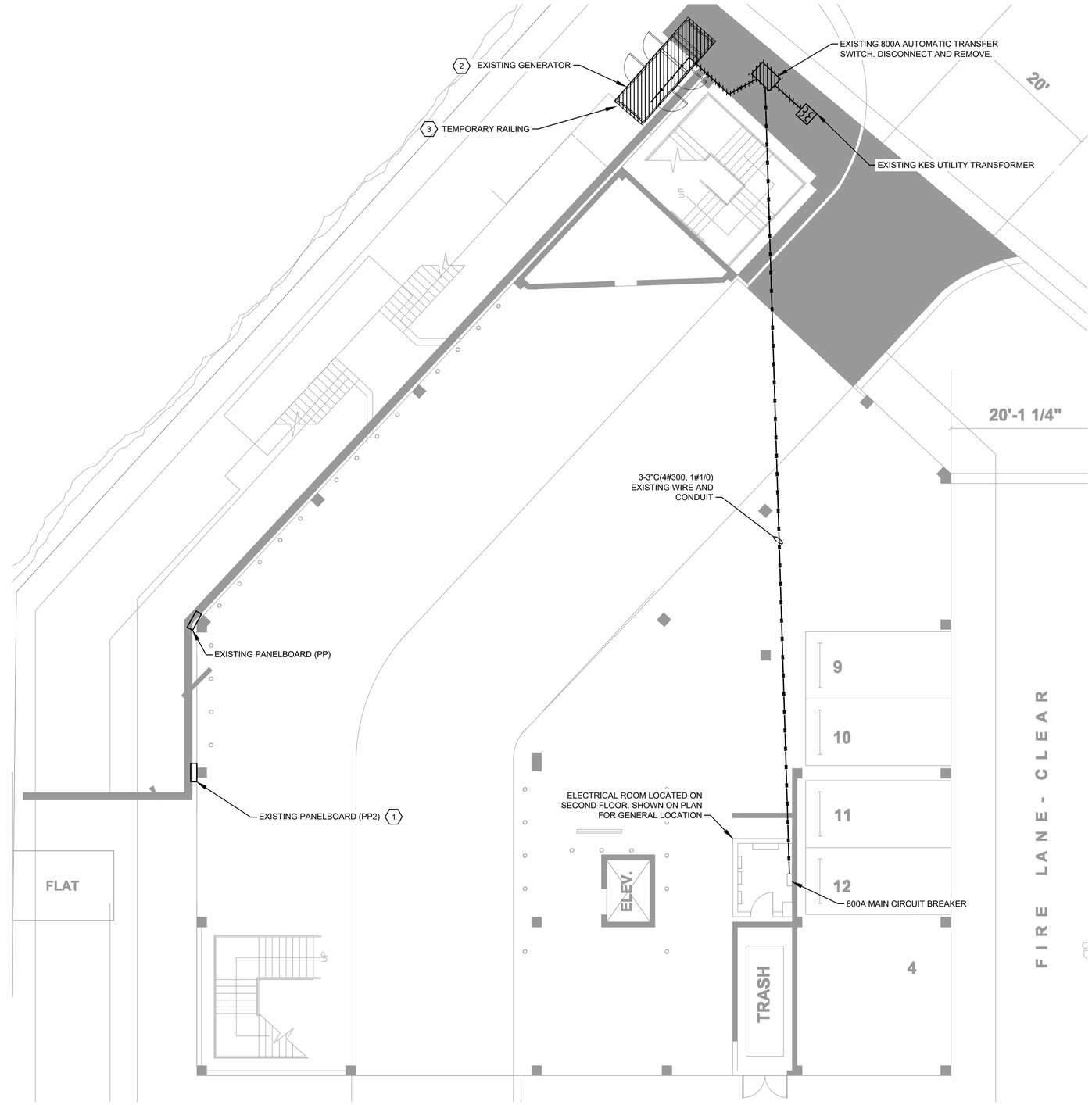

KEY NOTES:

1. MOVE EXISTING PANEL "PP" UP ON EXISTING COLUMN. BOTTOM OF BUSS BAR INSIDE PANELBOARD SHALL BE 1' ABOVE THE FEMA FLOOD PLAIN LEVEL (~7 FEET ABOVE GRADE). CONTRACTOR SHALL VERIFY EXACT LEVEL.
2. DISCONNECT AND REMOVE EXISTING GENERATOR. DISCONNECT AND REMOVE GENERATOR FUEL TANK. CONTRACTOR SHALL REMOVE AND DISPOSE OF FUEL AND TANK PER EPA REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DISPOSAL OF GENERATOR AND ALL APPURTENANCES REMOVED AS APART OF THIS PROJECT.
3. CONTRACTOR SHALL PROVIDE TEMPORARY RAILING DURING CONSTRUCTION TO SECURE OPENING LEFT FROM GENERATOR REMOVAL. AREA SHALL BE KEPT SECURED AND SAFE AT ALL TIMES.

ELECTRICAL SITE PLAN - DEMOLITION

SCALE: 1/8" = 1'

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CITY OF KEY WEST
KEY WEST BIGHT FERRY
GENERATOR MODIFICATIONS

ELECTRICAL DEMOLITION PLAN

Project No.:	200-67639-19003
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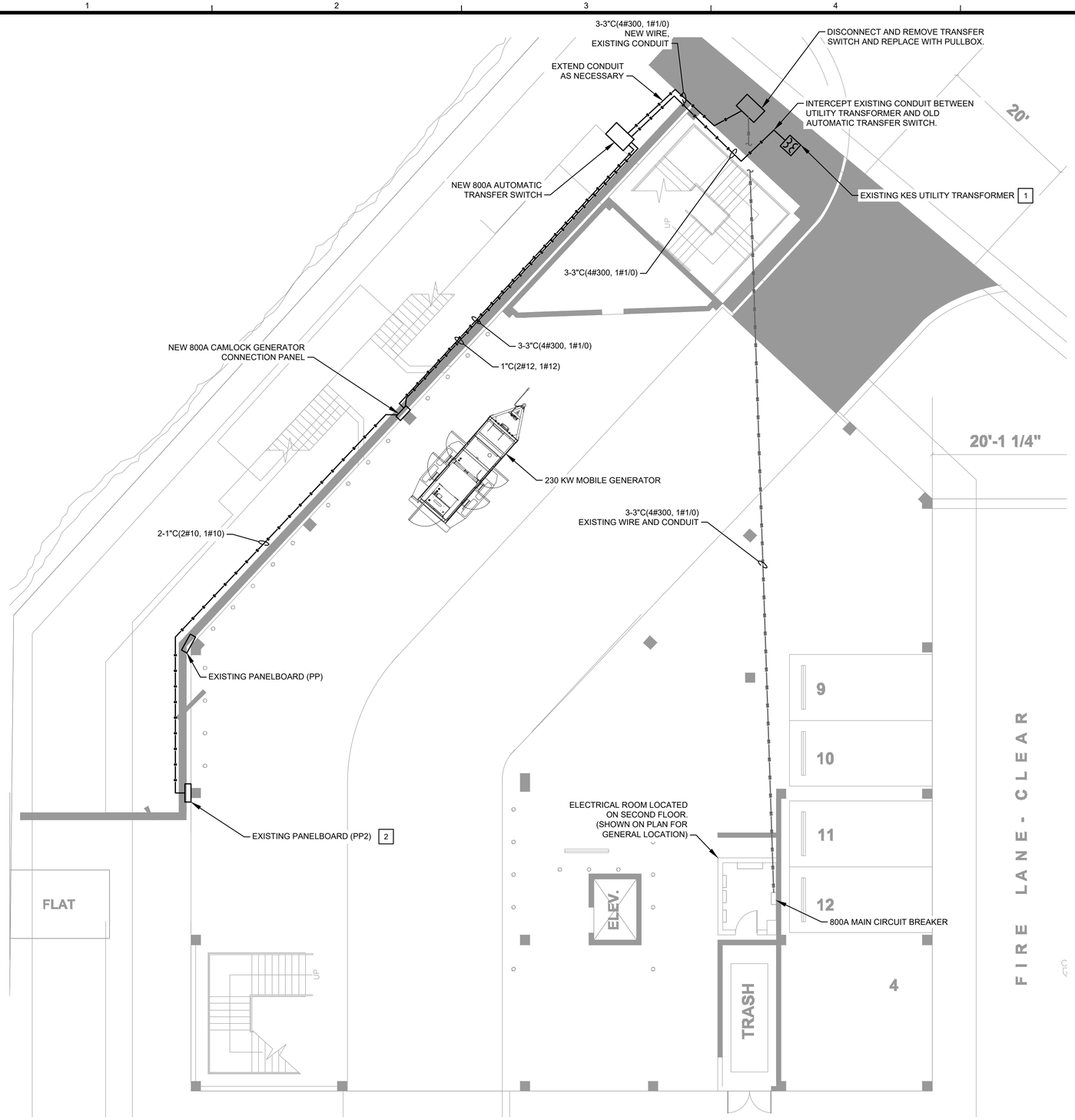

ELECTRICAL SITE PLAN

SCALE: 1/8" = 1'

KEY NOTES:

1. CONTRACTOR SHALL COORDINATE WITH KES FOR CONNECTION INTO EXISTING UTILITY TRANSFORMER.
2. MOVE EXISTING PANEL "PP2" UP ON EXISTING COLUMN. BOTTOM OF BUSS BAR INSIDE PANELBOARD SHALL BE 1' ABOVE THE FEMA FLOOD PLAIN LEVEL (~7 FEET ABOVE GRADE). CONTRACTOR SHALL VERIFY EXACT LEVEL. CONTRACTOR SHALL PROVIDE ACCESS PLATFORM (36"W x 42"D MINIMUM) IN FRONT OF PANEL "PP2". ACCESS PLATFORM SHALL BE CONSTRUCTED OF WOOD AND SHALL HAVE STEPS (SEE EXISTING PLATFORM ON SITE FOR CONSTRUCTION METHOD). PLATFORM SHALL BE LOCATED SO THAT THE HEIGHT OF THE HIGHEST OVER CURRENT DEVICE LOCATED IN PANEL "PP2" IS NOT MORE THAN 6'-6" ABOVE THE PLATFORM. PROVIDE FOUR NEW 20A/1P CIRCUIT BREAKERS FOR NEW CIRCUITS AS SHOWN ON SINGLE LINE DIAGRAM. REWORK FUEL DISPENSER PUMP POWER CIRCUITS TO BE FED FROM PANEL PP2.
3. CONTRACTOR SHALL PROVIDE PVC EXPANSION JOINTS PER THE NEC.

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE NEW RAILING AROUND AUTOMATIC TRANSFER SWITCH AND AROUND OLD GENERATOR LOCATION.
2. NEW CONDUIT SHALL BE SURFACE MOUNTED (SUPPORT OFF STRUCTURE WITH STAINLESS STEEL STRUT).
3. CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL POWER OUTAGES WITH CITY 2 WORKING DAY (24 HOURS) IN ADVANCE. MAXIMUM POWER OUTAGE SHALL BE 4 HOURS. CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY POWER (GENERATOR RENTAL AND FUEL) AS NECESSARY TO MAINTAIN POWER.

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CITY OF KEY WEST
KEY WEST BIGHT FERRY
GENERATOR MODIFICATIONS
ELECTRICAL SITE PLAN

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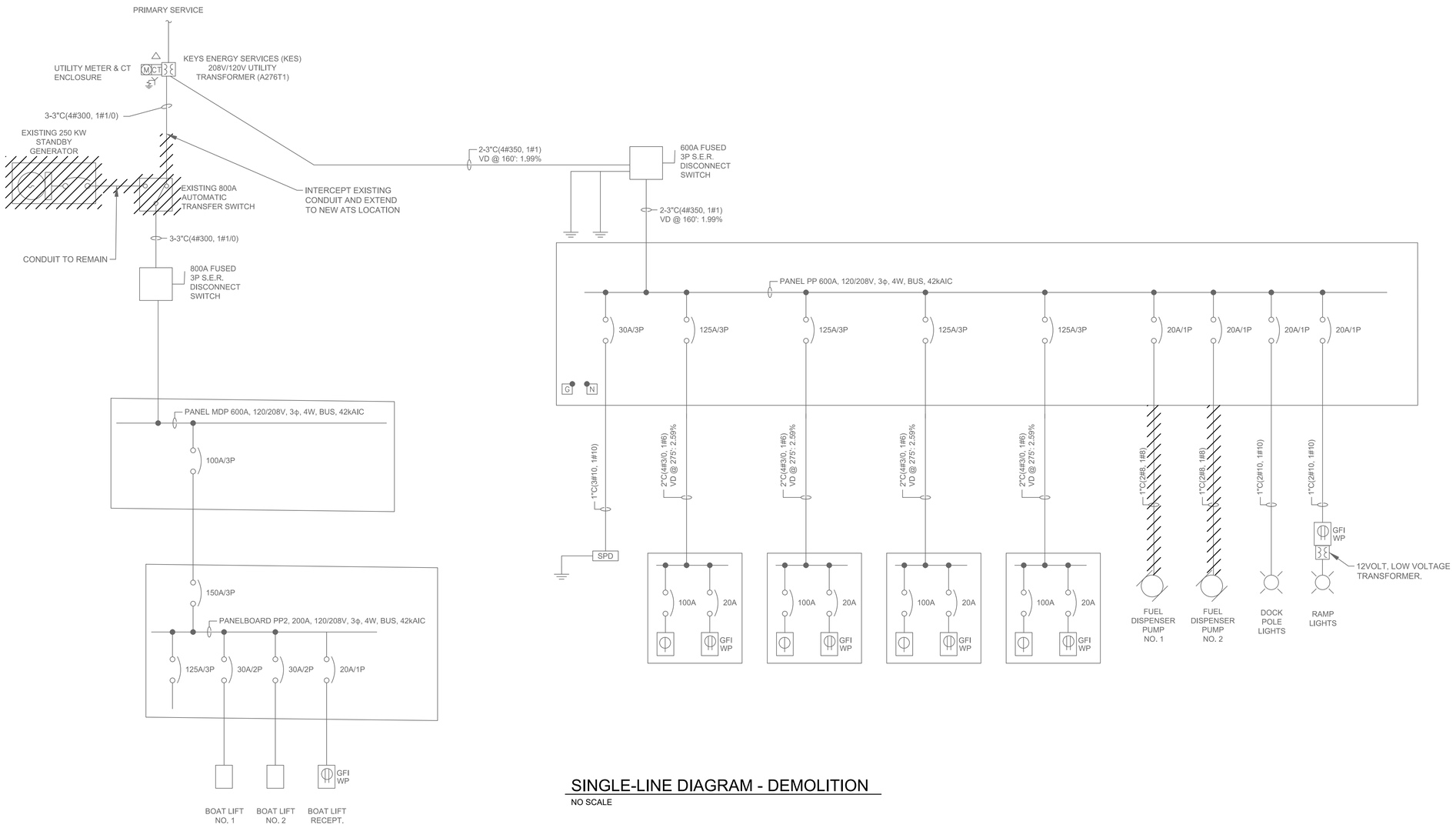

SINGLE-LINE DIAGRAM - DEMOLITION

NO SCALE

HATCH INDICATES TO BE DISCONNECTED AND REMOVED

LIGHT LINE WEIGHT INDICATES EXISTING

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CITY OF KEY WEST

KEY WEST BIGHT FERRY
GENERATOR MODIFICATIONS

ELECTRICAL DEMOLITION SINGLE LINE DIAGRAM

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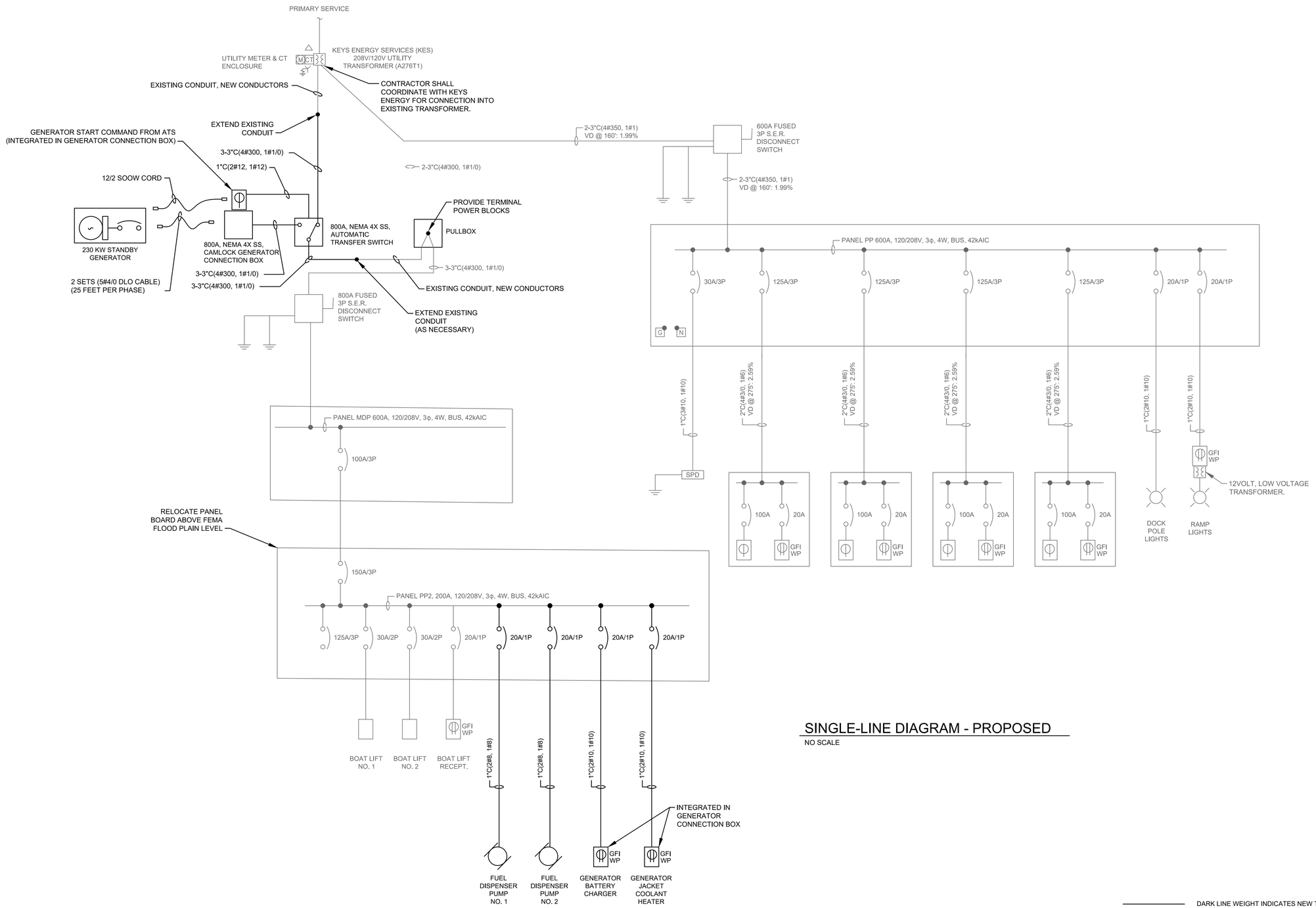

SINGLE-LINE DIAGRAM - PROPOSED

NO SCALE

DARK LINE WEIGHT INDICATES NEW TO BE PROVIDED AND INSTALLED

LIGHT LINE WEIGHT INDICATES EXISTING

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MARK	DATE	DESCRIPTION	BY

CITY OF KEY WEST
KEY WEST BIGHT FERRY
GENERATOR MODIFICATIONS
ELECTRICAL
SINGLE LINE DIAGRAM

Project No.:	200-67639-19003
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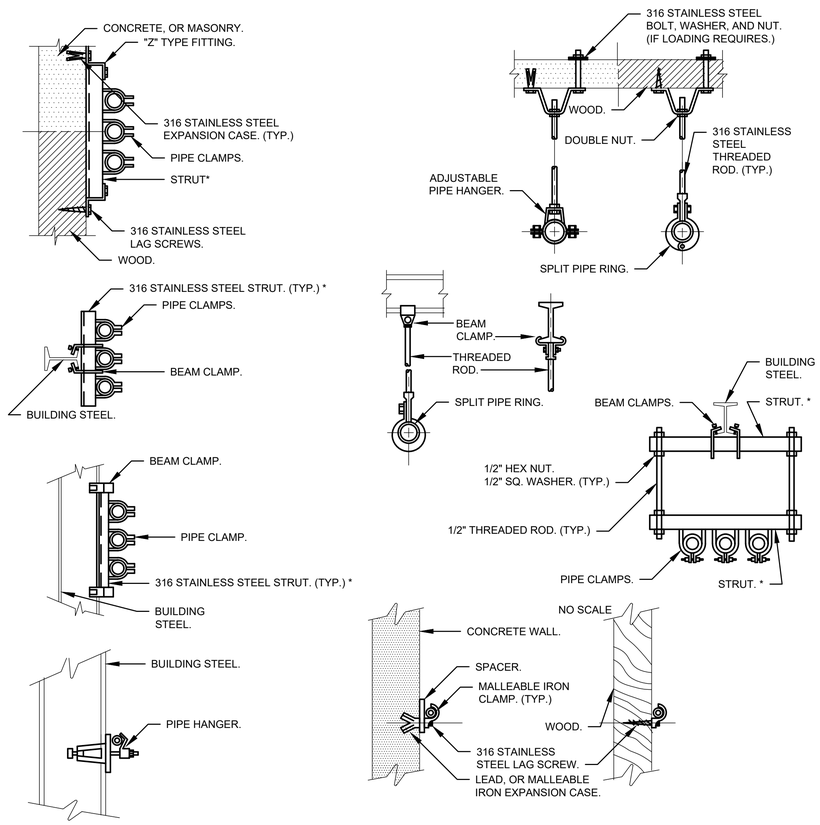
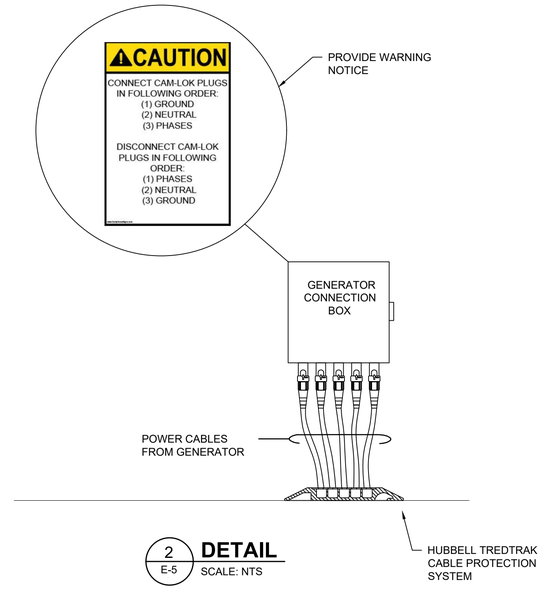
VERTICAL AND HORIZONTAL CONDUIT RACKS AND HANGERS



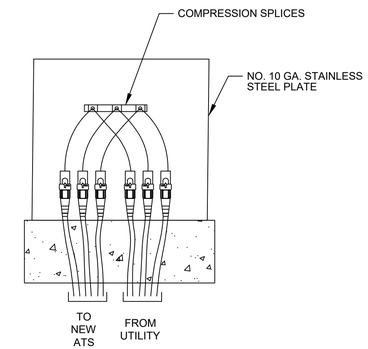
1 E-5 **DETAIL**
SCALE: NTS

GENERATOR CONNECTION BOX



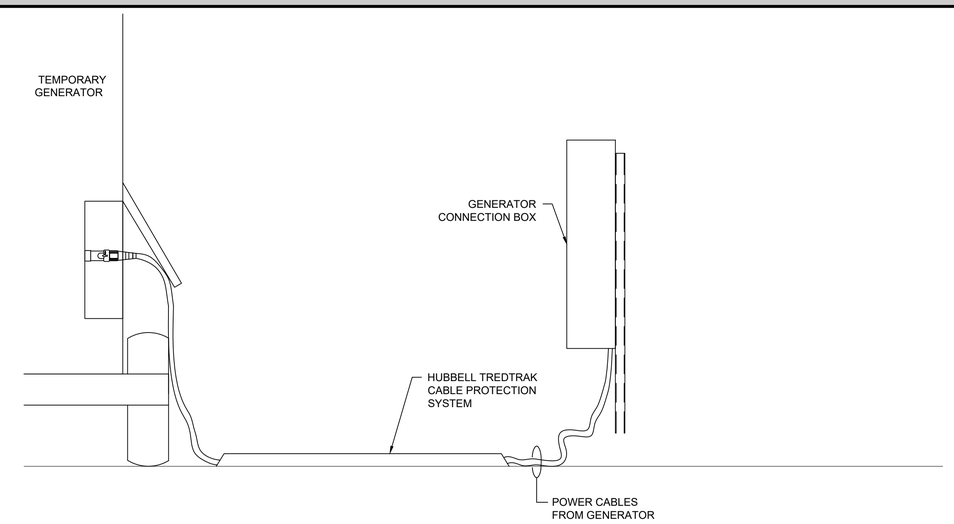
2 E-5 **DETAIL**
SCALE: NTS

PULLBOX CONNECTION DETAIL



3 E-5 **DETAIL**
SCALE: NTS

GENERATOR CONNECTION DETAIL



4 E-5 **DETAIL**
SCALE: NTS

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DATE

MARK	DATE	DESCRIPTION	BY

CITY OF KEY WEST
KEY WEST BIGHT FERRY
GENERATOR MODIFICATIONS
ELECTRICAL LEGEND

Project No.:	200-67639-19003
Designed By:	JAS
Drawn By:	JAS
Checked By:	DAB

E-5

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Bar Measures 1 inch

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