CONTRACT DOCUMENTS FOR:

ITB # 18-038

Wickers Field Athletic Trailers

August 1, 2018

MAYOR: CRAIG CATES

COMMISSIONERS:

RICHARD PAYNE

BILLY WARDLOW

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PREPARED BY:
City of Key West
Engineering Services

CITY OF KEY WEST

KEY WEST, FLORIDA

CONTRACT DOCUMENTS

For

Wickers Field Athletic Trailers

****

CONSISTING OF:
BID REQUIREMENTS
CONTRACT FORMS
CONDITIONS OF THE CONTRACT
GENERAL REQUIREMENTS
DRAWINGS

*****

KEY WEST, FLORIDA

August 1, 2018

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PART 1

BIDDING REQUIREMENTS

INVITATION TO BID

Sealed bids for the City of Key West ITB #18-038, ***Wickers Field Athletic Trailers***, addressed to the City of Key West, will be received at the Office of the City Clerk, 1300 White Street., Key West Florida, 33040 until 3:00 pm on **September 19, 2018** Bid opening date 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, and two (2) flash drives each with one single PDF file of the sections entitled "Bidding Requirements" and "Contract Forms". Bid package is to be enclosed in a sealed envelope, clearly marked on the outside "ITB # 18-038 BID FOR "Wickers Field Athletic Trailers" addressed and delivered to the City Clerk at the address noted above.

The project contemplated consists of providing all site work, materials, equipment and labor necessary to accomplish the following:

Furnish labor, materials and equipment to site three new trailers at the Wickers Field Sports Complex including, but not limited to foundation construction. Bidders shall provide bid alternate pricing to procure and install new trailers.

Drawings and Specifications may be obtained from Demand Star by Onvia or City of Key West. Please contact Demand Star at www.demandstar.com or call 1-800-711-1712 or www.cityofkeywest-fl.gov

A **MANDATORY** Pre - Bid meeting will be held on August 29, 2018 at 10:00 In the City Managers Conference room of the Key West City Hall 1300 White Street, Key West, Florida

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.

THE BIDDER MUST BE A LICENSED CONTRACTOR BY THE STATE OF FLORIDA AND SUBMIT PROOF OF SUCH WITH THE BID.

The successful Bidder shall furnish documentation showing that he is in compliance with the licensing requirements of the State and the provisions of Chapter 66 Section 87 of the Code of Ordinances of the City of Key West; within 10 days following the Notice of Award and must demonstrate that he holds at a minimum, the following licenses & certificates;

A. City of Key West Business Tax License Receipt
B. A valid Certificate of Competency issued by the Chief Building Official of Key West, Florida.

All bid 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.

Before a Contract will be awarded for the work contemplated herein, the CITY will conduct such investigation as is necessary to determine the performance record and ability of the apparent low Bidder to perform the size and type of work specified under this Contract. Upon request, the Bidder shall submit such information as deemed necessary by the CITY to evaluate the Bidder's qualifications.

Any request for information concerning this project must be made in writing, per City of Key West Ordinance Section 2-773, Cone of Silence, to Kreed Howell, Senior Construction Manager at lhowell@cityofkeywest-fl.gov**.**

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 Bid in question. The CITY may reject bids for any and/or all of the following reasons: (1) for budgetary reasons, (2) if the bidder misstates or conceals a material fact in its bid, (3) if the bid does not strictly conform to the law or is non-responsive to the bid requirements, (4) if the bid is conditional, or (5) if a change of circumstances occurs making the purpose of the bid unnecessary to the CITY. The CITY may also waive any minor formalities or irregularities in any bid, (6) if such rejection is in the best interest 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 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

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

Should there be any doubt as to the meaning or intent of said Contract Documents, the Bidder should request of the ENGINEER, in writing (at least ten (10) calendar days prior to bid opening) 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 available to all registered holders of Contract Documents via Demand star. Bidders shall submit with their Bids, or indicate receipt of, all Addenda. The CITY will not be responsible for any other explanation or interpretations of said Documents.

2. GENERAL DESCRIPTION OF THE PROJECT

A general description of the work to be done is contained in the Invitation to Bid. The scope is specified in applicable parts of these Contract Documents.

3. QUALIFICATION OF CONTRACTORS

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

4. BIDDER'S UNDERSTANDING

Each Bidder must inform himself of the conditions relating to the execution of the work, and it is assumed that he will inspect the site and make himself thoroughly familiar with all the Contract Documents. Failure to do so will not relieve the successful Bidder of his obligation to enter a Contract and complete the contemplated work in strict accordance with the Contract Documents. It shall be the Bidder's obligation to verify for himself and to his complete satisfaction all information concerning site and subsurface conditions.

The CITY will make available to prospective Bidders upon request and at the office of the ENGINEER, prior to bid opening, any information that he may have as to subsurface conditions and surface topography at the worksite.

Each Bidder shall inform himself of, and the Bidder 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, burning and non-burning requirements, permits, fees, and similar subjects.

5. TYPE OF BID

A. LUMP SUM

The BID for the work is to be submitted on a lump sum basis. Lump sum prices shall be submitted for all items of work set forth in the bid. All items required to complete the work specified but not included in the bid shall be considered incidental to those set forth in the bid.

The Bidder shall submit a Schedule of Values with the BID. It shall be broken down by trade and type of work and include the cost of all LABOR & MATERIALS for use as a basis for payment.

6. PREPARATION OF BIDS

A. GENERAL

All blank spaces in the BID form must be filled in, as required, preferably in BLACK ink. All price information shall be 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 CITY 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 therefore. 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 CITY 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's attention is brought to the hiring practices and licenses and permits of the City of Key West. These are defined in the addition to Article 39, ORDINANCES, PERMITS, AND LICENSES, as set forth in the Supplementary Conditions.

The Bidder shall submit with his Bid his experience record showing his experience and expertise in roof construction and related work. Such experience record shall provide at least five current or recent projects (within the past 5 years) of similar work, 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 with his bid a list of items to be performed by his own labor and that performed by subcontractors or others.

D. ATTACHMENTS

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

Anti-Kickback Affidavit
Public Entity Crimes Form
Indemnification Form
City of Key West Business License Tax Receipt
Local Vendors Form
Domestic Partnership Affidavit
Cone of Silence Affidavit
Non-Collusion Affidavit
Bidders' Checklist

E. PUBLIC ENTITY CRIMES FORM

Pursuant to the requirements of Chapter 287.133, Laws of Florida, pertaining to the sworn statement on Public Entity Crimes and the Convicted Vendor List, all Bidders shall submit a signed and notarized statement with their Bid on the form provided herein.

7. STATE AND LOCAL SALES AND USE TAXES

Unless the Supplementary Conditions contains a statement that the CITY is exempt from state sales tax on materials incorporated into the work due to the qualification of the work under this Contract, the Contractor, as required by the laws and statutes of the state and its political subdivisions, shall pay all state and local sales and use taxes. Prices quoted in the Bid shall include all nonexempt sales and use taxes, unless provision is made in the Bid form to separately itemize the tax.

8. SUBMISSION OF BIDS

All BIDS must be submitted not later than the time prescribed, at the place, and in the manner set forth in the Invitation to Bid. BIDS must be made on the BID forms provided herewith, **submit one (1) ORIGINAL and two (2) FLASH DRIVES each containing a single PDF file of the entire bid package.**

Each BID must be submitted in a sealed envelope, so marked as to indicate the Bidder's name and its contents (project name and number) without being opened and addressed in conformance with the instructions in the Invitation to Bid.

9. MODIFICATION OR WITHDRAWAL OF BIDS

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 BID. 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.

10. 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 Bid 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.

11. RETURN OF BID SECURITY

Within 15 days after the award of the Contract, the CITY will return the bid securities to all Bidders

whose BIDS are not to be further considered in awarding the Contract. Retained bid securities will be held until the Contract has been finally executed, after which all bid securities, other than Bidders' bonds and any guarantees, which have been forfeited, will be returned to the respective Bidders whose Bids they accompanied.

12. AWARD OF CONTRACT

Within ninety (90) calendar days after the opening of Bids, the CITY will accept one of the Bids or will act in accordance with the following paragraphs. 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. In the event of failure of the lowest responsive, responsible Bidder to sign the Contract, provide additional documents, insurance certificate(s) and evidence of holding required licenses and certificates, the Owner may award the Contract to the next lowest responsive, responsible Bidder. Such award, if made, will be made within one hundred & twenty (120) days after the opening of Bids.

The CITY reserves the right to accept or reject any or all Bids, and to waive any informalities and irregularities in said Bids.

13. 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.

14. EXECUTION OF CONTRACT

The successful Bidder shall, within ten (10) working days after receiving Notice of Award, sign and deliver to the CITY an original Contract and two (2) copies in the form hereto attached, together with the insurance certificate 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 City's authorized agent will sign the Contract. Signature by both parties constitutes execution of the Contract.

16. FAILURE TO EXECUTE CONTRACT AND FURNISH BID BOND

The Bidder who has a Contract awarded to him and who fails to promptly and properly execute the Contract 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. 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.

17. TIME OF COMPLETION

All work (including trailer procurement) shall be completed within 150 calendar days from Notice to Proceed. 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 be allowed in accordance with the provisions stated in the General Conditions.

NOTE TO BIDDER: Use preferably BLACK ink for completing this BID form.

PROPOSAL FORM

To:	The City of Key West
Address:	1300 White Street, Key West, Florida 33040
Project Title:	Wickers Field Athletic Trailers ITB No. 18-038

Bidder's contact person 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 for the construction of the project, that he has personally inspected the site, 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 Bid.

CONTRACT EXECUTION

The Bidder agrees that if this Bid is accepted, he will, within 10 days, not including Sundays and legal holidays, after Notice of Award, sign the Contract in the form annexed hereto, and will at that time, deliver to the Owner evidence of holding required licenses and certificates, and will, to the extent of his Bid, furnish all machinery, tools, apparatus, and other means of construction and do the work and furnish all the materials necessary to complete all work as specified or indicated in the Contract Documents.

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.

START OF CONSTRUCTION AND CONTRACT COMPLETION TIME

The Bidder further agrees to begin work within 10 calendar days after the date of the Notice to proceed and to complete the project, in all respects within 180 calendar days after the date of the Notice to Proceed.

LIQUIDATED DAMAGES

In the event the Bidder is awarded the Contract and shall fail 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 $200 per day for all work awarded until the work has been satisfactorily completed as provided by the Contract Documents.

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.

LUMP SUM

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 lump sum amounts. The Bidder agrees that the lump sum represent a true measure of the labor and materials required to perform the work, including all allowances for overhead and profit for each type and unit of work called for in these Contract Documents.

PROPOSAL FORM

LUMP SUM BASE BID: **$_____**

_____Dollars & _____Cents
(amount written in words)

BID ALTERNATE NO. 1 – Installation and construction of the composite wood deck

See Construction Drawings for plans on the placement and construction of the composite deck. The piles associated with supporting the composite deck are included in the base bid. This Bid Alternate is for the construction of the deck and associated stairs.

LUMP SUM $_____

BID ALTERNATE NO. 2 – Procurement and installation of an ADA compliant wheel chair lift

The ADA compliant chair lift needs to meet or exceed the standards for an exterior chair lift as defined by the Americans with Disabilities Act.

LUMP SUM $_____

BID ALTERNATE NO. 3 – Procurement of two (2) 12' x 56' and one (1) 12' x 44' mobile office trailers

Procure and install mobile office trailers by Vesta Modular Inc., any substitution other than Vesta Modular will require approval by Owner. Plans and Specifications for this bid alternate can be found in Part 6 of these documents. ***Failure to provide a dollar value for this Bid Alternate WILL result in a NON-RESPONSIVE bid.***

LUMP SUM $_____

NOTE: OWNER HAS RIGHT TO ACCEPT OR REJECT ANY, ALL OR NO BID ALTERNATE ITEMS. THE TOTAL OF BASE BID PLUS THE SUM OF OWNER SELECTED BID ALTERNATES WILL BE BASIS OF EVALUATING LOW BIDDER AND BASIS OF AWARD.

Payment for subcontractors, materials and equipment authorized by the Owner in a written Change Order but not listed in the above Bid will be provided at the supplier's invoice plus 10 %.

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 if the Bidder is awarded the Contract:

_____
Name

_____, _____, _____, _____
Street City State Zip

_____
Name

_____, _____, _____,_____
Street City State Zip

_____
Name

_____, _____, _____,_____
Street City State Zip

_____
Name

_____, _____, _____,_____
Street City State Zip

_____
Name

_____, _____, _____,_____
Street City State Zip

SURETY

_____ whose address is

_____, _____, _____, _____
Street City State Zip

BIDDER

The name of the Bidder submitting this Bid is

_____ doing business at

_____, _____, _____, _____
Street City State Zip

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:

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

If Sole Proprietor or Partnership

IN WITNESS hereto the undersigned has set his (its) hand this _____ day of _____ 2018.

_____
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 _____ 2018.

(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 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 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 for

ITB # 18-038 / Wickers Field Athletic Trailers / said Bid, 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 Bid and the detailed Specifications, entitled:

ITB 18-038, Wickers Field Athletic Trailers

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 five (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 _____ ,2018.

PRINCIPAL

By_____

STATE OF _____)
: SS
COUNTY OF _____)

_____
SURETY

By _____

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 _____, 2018.

NOTARY PUBLIC, State of _____ 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 Bid 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

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

b. 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 _____ , 2018.

My commission expires:

_____
NOTARY PUBLIC

INDEMNIFICATION

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: _____

LOCAL VENDOR CERTIFICATION PURSUANT TO CKW ORDINANCE 09-22 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 Bids.

- Not a local vendor pursuant to Ordinance 09-22 Section 2-798
- Qualifies as a local vendor pursuant to Ordinance 09-22 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:_____

_____ Date: _____
Signature of Authorized Representative

STATE OF_____ COUNTY OF_____

The foregoing instrument was acknowledged before me this _____day of_____, 2018.

By_____, of _____
(Name of officer or agent, title of officer or agent) (Name of corporation acknowledging)

or has produced identification_____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

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 Ordinance Sec. 2-799.

By: _____

Sworn and subscribed before me this

_____ Day of _____, 2018.

_____

NOTARY PUBLIC, State of _____ 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 issued competitive solicitations pursuant to City of Key West Ordinance Section 2-773 Cone of Silence.

Sworn and subscribed before me this

_____ Day of _____, 2018.

_____

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 _____, 2018.

_____
NOTARY PUBLIC, State of Florida at Large

My Commission Expires: _____

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, using black ink.	[ ]
3.	Total and unit prices added correctly and attached Schedule of Values	[ ]
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 calendar days after receiving a Notice of Award.	[ ]
11.	BID submitted intact with the volume entitled “Bidding Requirements” and “Contract Forms”, 1 original, and 2 flash drives as stated in the invitation to bid.	[ ]
12.	Bid Documents submitted in sealed envelope and addressed and labeled in conformance with the instructions in the Invitation to Bid.	[ ]

PART 2

CONTRACT FORMS

CONTRACT

This Contract, made and entered into this _____ day of _____ 2018,

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 Click or tap here to enter text., Wickers Field Athletic Trailers, in Key West, Florida to the extent of the Bid made by the Contractor, dated the _____ th day of_____ _____2018, all in full compliance with the Contract Documents referred to herein.

The CONTRACT DOCUMENTS, including the signed copy of the BID, BID BOND, CONTRACT FORM, SUMMARY OF WORK, SPECIFICATIONS, DRAWINGS, GENERAL & SUPPLEMENTARY CONDITIONS OF THE CONTRACT.

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 ***150*** calendar days from date of Notice to Proceed 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.

It is agreed that the Contract, based upon the BID, shall be fully complete within the stated number of consecutive calendar days from the date the Notice to Proceed is issued.

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 $200 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 effect.

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

_____ Day of _____, A.D., 2018.

CITY OF KEY WEST

By_____

Title___City Manager_____

CONTRACTOR

By_____

Title_____

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 _____ , hereinafter called the SURETY, and authorized to transact business within the State of Florida, as SURETY, are held and firmly bound CITY OF KEY WEST**,**

represented by its _____, 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 hereto attached, with the CITY, dated _____, 2018, 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 permit form, coral relocation plan, specifications, 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, 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 _____, 2018, 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 CITY OF KEY WEST**,**

represented by its _____, 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

Wickers Field Athletic Trailers

attached hereto, with the CITY, dated _____, 2018, 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 the permit form, coral relocation plan, the specifications, 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, 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 _____, 2018, 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

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DEFINITIONS

Whenever in the Contract Documents the following terms are used, the intent and meaning shall be interpreted as follows:

1. AS APPROVED

The words "as approved", unless otherwise qualified, shall be understood to be followed by the words "by the ENGINEER for conformance with the Contract Document".

2. AS SHOWN, AND AS INDICATED

The words "as shown" and "as Indicated" shall be understood to be followed by the words "on the Drawings".

3. BIDDER

The person or persons, partnership, firm, or corporation submitting a Bid for the work contemplated.

4. CONTRACT DOCUMENTS

The "Contract Documents" consist of the Bidding Requirements, Contract Forms, Conditions of the Contact, Specifications, Drawings, all modifications thereof incorporated into the Documents before their execution, Change Orders, and all other requirements incorporated by specific reference thereto. These form the Contract.

5. CONTRACTOR

The person or persons, partnership, firm, or corporation who enters into the Contract awarded him by the OWNER.

6. CONTRACT COMPLETION

The "Contract Completion" is the date the OWNER accepts the entire work as being in compliance with the Contract Documents, or formally waives nonconforming work to extent of nonconformity, and issues the final payment in accordance with the requirements set forth in Article, "Final Payment" of these General Conditions.

7. DAYS

Unless otherwise specifically stated, the term "days" will be understood to mean calendar days. Business day or working day means any day other than Saturday, Sunday, or legal holiday.

8. DRAWINGS

The term "Drawings" refers to the official Drawings, Profiles, cross sections, elevations, details, and other working drawings and supplementary drawings, or reproductions thereof, signed by the ENGINEER, which shows the location, character, dimensions, and details of the work to be performed. Drawings may either be bound in the same book as the balance of the Contract Documents, or bound in separate sets, and are a part of the Contract Documents, regardless of the method of binding.

9. ENGINEER

The person or organization identified as such in the Contract Documents. The Term "ENGINEER" means ENGINEER or his authorized representative.

10. NOTICE

The term "notice" or the requirement to notify, as used in the Contract Documents or applicable state or federal statutes, shall signify a written communication delivered in person or by registered mail to the individual, or to a member of the firm, or to an officer of the corporation for whom it is intended. Certified or registered mail shall be addressed to the last business address known to him who gives the notice.

11. OR EQUAL

The term "or equal" shall be understood to indicate that the "equal" Product is equivalent to or better than the Product named in function, performance, reliability, quality, and general configuration. Determination of equality in reference to the Project design requirements will be made by the ENGINEER. Such equal Products shall not be purchased or installed by the CONTRACTOR without written authorization.

12. OWNER

The person, organization, or public body identified as such in the Contract Documents.

13. PLANS (See Drawings)

14. SPECIFICATIONS

The term "Specifications" refers to those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards, and workmanship as applied to the work and certain administrative details applicable thereto. Where standard specifications, such as those of ASTM, AASHTO, etc., have been referred to, the applicable portions of such standard specifications shall become a part of these Contract Documents. If referenced specifications conflict with specifications contained herein, the requirements contained herein shall prevail.

15. NOTICE TO PROCEED

A written notice given by the OWNER to the CONTRACTOR (with a copy to the ENGINEER) fixing the date on which the Contract time will commence to run and on which the CONTRACTOR shall start to perform his obligation under the Contract Documents. The Notice to Proceed will be given within 30 days following the execution of the Contract by the OWNER.

16. SUBSTANTIAL COMPLETION

"Substantial Completion" shall be that degree of completion of the Project or a defined portion of the Project, as evidenced by the ENGINEER's written notice of Substantial Completion, sufficient to Provide the OWNER, at his discretion, the full-time use of the Project or defined portion of the Project for the purposes for which it was intended. "Substantial Completion" of an operating facility shall be that degree of completion that has Provided a minimum of 7 continuous days of successful, trouble-free, operation, which period shall begin after all performance and acceptance testing has been successfully demonstrated to the ENGINEER. All equipment contained in the work, plus all other components necessary to enable the OWNER to operate the facility in a manner that was intended, shall be complete on the substantial completion date.

17. WORK

The word "work" within these Contract Documents shall include all material, labor, tools, and all appliances, machinery, transportation, and appurtenances necessary to perform and complete the Contract, and such additional items not specifically indicated or described which can be reasonably inferred as belonging to the item described or indicated and as required by good Practice to Provide a complete and satisfactory system or structure. As used herein, "Provide" shall be understood to mean "furnish and install, complete in-place ".

<u>CONTRACT DOCUMENTS</u>

18. INTENT OF CONTRACT DOCUMENTS

The Contract Documents are complementary, and what is called for by one shall be as binding as if called for by all. The intent of the 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. When words which have a well-known technical or trade meaning are used to describe work, materials, or equipment, such words shall be interpreted in accordance with that meaning.

Reference to standard specifications, manuals, or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or laws or regulations in effect on the first published date of the Invitation to Bid, except as may be otherwise specifically stated. However, no Provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR, or ENGINEER, or any of their consultants, agents, or employees from those set forth in the Contract Documents, nor shall it be effective to assign to ENGINEER, or any ENGINEER's consultants, agents, or employees, any duty or authority to supervise or direct the furnishing or performance of the work or any duty or authority to undertake responsibility contrary to the Provisions of Article LIMITATIONS ON ENGINEER'S RESPONSIBILITIES.

19. DISCREPANCIES AND OMISSIONS

Any discrepancies or omissions found in the Contract Documents shall be reported to the ENGINEER immediately. The ENGINEER will clarify discrepancies or omissions, in writing, within a reasonable time.

In resolving inconsistencies among two or more sections of the Contract Documents, Precedence shall be given in the following order:

A. CONTRACT
B. BID
C. SUPPLEMENTARY CONDITIONS
D. INVITATION TO BID
E. INSTRUCTIONS TO BIDDERS
F. GENERAL CONDITIONS
G. SPECIFICATIONS
H. DRAWINGS

Addenda shall take Precedence over all sections referenced therein. Figure dimensions on Drawings shall take precedence over scale dimensions. Detailed Drawings shall take precedence over general Drawings.

20. CHANGES IN THE WORK

The OWNER, without notice to the Sureties and without invalidating the Contract, may order changes in the work within the general scope of the Contract by altering, adding to, or deducting from the work, the Contract being adjusted accordingly. All such work shall be executed under the conditions of the original Contract, except as specifically adjusted at the time of ordering such change.

In giving instructions, the ENGINEER may order minor changes in the work not involving extra cost and not inconsistent with the purposes of the Project, but otherwise, except in an emergency endangering life and Property, additions or deductions from the work shall be performed only in pursuance of an approved Change Order from the OWNER, countersigned by the ENGINEER.

If the work is reduced by alterations, such action shall not constitute a claim for damages based on loss of anticipated Profits.

21. EXAMINATION AND VERIFICATION OF CONTRACT DOCUMENTS

The CONTRACTOR shall thoroughly examine and become familiar with all of the various parts of these Contract Documents and determine the nature and location of the work, the general and local conditions, and all other matters, which can in any way affect the work under this Contract. Failure to make an examination necessary for this determination shall not release the CONTRACTOR from the obligations of this Contract. No verbal agreement or conversation with any officer, agent, or employee of the OWNER or with the ENGINEER either before or after the execution of this Contract shall affect or modify any of the terms or obligations herein contained.

22. DOCUMENTS TO BE KEPT ON THE JOBSITE

The CONTRACTOR shall keep one copy of the Contract Documents on the job- site, in good order, available to the ENGINEER and to his representatives.

The CONTRACTOR shall maintain on a daily basis at the jobsite, and make available to the ENGINEER on request, one current

record set of the Drawings which have been accurately marked to indicate all modifications in the completed work that differ from the design information shown on the Drawings. Upon Substantial completion of the work, the CONTRACTOR shall give the ENGINEER one complete set of these marked up record Drawings.

23. ADDITIONAL CONTRACT DOCUMENTS

Copies of Contract Documents or Drawings may be obtained on request from the ENGINEER and by paying the actual cost of reproducing the Contract Documents or Drawings.

24. OWNERSHIP OF CONTRACT DOCUMENTS

All portions of the Contract Documents, and copies thereof furnished by the ENGINEER are instruments of service for this Project. They are not to be used on other work and are to be returned to the ENGINEER on request at the completion of the work. Any reuse of these materials without specific written verification or adaptation by the ENGINEER will be at the risk of the user and without liability or legal expense to the ENGINEER. Such user shall hold the ENGINEER harmless from any and all damages, including reasonable attorneys' fees, from any and all claims arising from any such reuse. Any such verification and adaptation shall entitle the ENGINEER to further compensation at rates to be agreed upon by the user and the ENGINEER.

THE ENGINEER

25. AUTHORITY OF THE ENGINEER

The ENGINEER will be the OWNER's representative during the construction period. His authority and responsibility will be limited to the Provisions set forth in these Contract Documents. The ENGINEER will have the Authority to reject work that does not conform to the Contract Documents. However, neither the ENGINEER's authority to act under this Provision, nor any decision made by him in good faith either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of the ENGINEER to the CONTRACTOR, any SUBCONTRACTOR, their respective Sureties, any of their agents or employees, or any other person performing any of the work.

26. DUTIES AND RESPONSIBILITIES OF THE ENGINEER

The ENGINEER will make visits to the site at intervals appropriate to the various stages of construction to observe the Progress and quality of the work and to determine, in general, if the work is proceeding in accordance with the intent of the Contract Documents. He will not make comprehensive or continuous review or observation to check quality or quantity of the work, and he will not be responsible for construction means, methods, techniques, sequences, or Procedures, or for safety Precautions and Programs in connection with the work. Visits and observations made by the ENGINEER shall not relieve the CONTRACTOR of his obligation to conduct comprehensive inspections of the work and to furnish materials and perform acceptable work, and to provide adequate safety Precautions, in conformance with the intent of the Contract.

The ENGINEER will make recommendations to the OWNER, in writing, on all claims of the OWNER or the CONTRACTOR arising from interpretation or execution of the Contract Documents. Such recommendations will be of factual and/or technical nature, and will not include the legal interpretation of the Contract Documents. Any necessary legal interpretation of the Contract Document will be made by the OWNER. Such recommendation shall be necessary before the CONTRACTOR can receive additional money under the terms of the Contract. Changes in work ordered by the ENGINEER shall be made in compliance with Article CHANGES IN THE WORK.
One or more Project representatives may be assigned to observe the work. It is understood that such Project representatives shall have the authority to issue notice of nonconformance and make decisions within the limitations of the authority of the ENGINEER. The CONTRACTOR shall furnish all reasonable assistance required by the ENGINEER or Project representatives for Proper observation of the work. The above-mentioned Project representatives shall not relieve the CONTRACTOR of his obligations to conduct comprehensive inspections of the work and to furnish materials and perform acceptable work, and to provide adequate safety Precautions, in conformance with the intent of the Contract.

27. LIMITATIONS ON ENGINEER'S RESPONSIBILITIES

ENGINEER will not be responsible for CONTRACTOR's means, methods, techniques, sequences, or Procedures of construction, or the safety Precautions and Programs incident thereto, and ENGINEER will not be responsible for CONTRACTOR's failure to

perform or furnish the work in accordance with the Contract Documents.

ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any SUBCONTRACTOR, any supplier, or of any other person or organization performing or furnishing any of the work.

Whenever in the Contract Documents the terms “as ordered”, “as directed”, “as required”, “as allowed”, “as approved”, or terms of like effect or import are used, or the adjectives “reasonable”, “suitable”, “acceptable”, “Proper”, or “satisfactory”, or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of ENGINEER as to the work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the furnishing or performance of the work or any duty or authority to undertake responsibility contrary to the Provisions of this Article.

28. REJECTED WORK

Any defective work or nonconforming materials or equipment that may be discovered at any time prior to expiration of the warranty period shall be removed and replaced by work which shall conform to the Provisions of the Contract Documents. Any material condemned or rejected shall be removed at once from the Project site.

Failure on the part of the ENGINEER to condemn or reject bad or inferior work or to note nonconforming materials or equipment on CONTRACTOR submittals shall not be construed to imply acceptance of such work. The OWNER shall reserve and retain all of its rights and remedies at law against the CONTRACTOR and its Surety for correction of any and all latent defects discovered after the guarantee period.

29. LINES AND GRADES

Lines and grades shall be established as provided in the supplementary conditions. All stakes, marks, and other reference information shall be carefully preserved by the CONTRACTOR, and in case of their careless or unnecessary destruction or removal by him or his employees, such stakes, marks, and other information shall be replaced at the CONTRACTOR’s expense.

30. SUBMITTALS

After checking and verifying all field measurements and after complying with applicable Procedures specified in Division I, GENERAL REQUIREMENTS, CONTRACTOR shall submit to ENGINEER, in accordance with the schedule for submittals for review, shop drawings, electrical diagrams, and catalog cuts for fabricated items and manufactured items (including mechanical and electrical equipment), which shall bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR’s responsibilities under the Contract Documents with respect to the review of the submittal. All submittals shall be identified as ENGINEER may require. The data shown shall be complete with respect to quantities, dimensions specified, performance and design criteria, materials, and similar data to enable ENGINEER to review the information. CONTRACTOR shall also submit to ENGINEER for review, with such promptness as to cause no delay in work, all samples required by the Contract Documents. All samples shall have been checked by and accompanied by a specific written indication that CONTRACTOR has satisfied CONTRACTOR’s responsibilities under the Contract Documents with respect to the review of the submission and shall be identified clearly as to material, supplier, pertinent data such as catalog numbers and the use for which intended.

Before submission of each submittal, CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar data with respect thereto and reviewed or coordinated each submittal with other submittals and with the requirements of the work and the Contract Documents.

At the time of each submission, CONTRACTOR shall give ENGINEER specific written notice of each variation that the submittal may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each shop drawing submitted to ENGINEER for review and approval of each variation.

ENGINEER will review submittals with reasonable Promptness, but ENGINEER’s review will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences, or Procedures of construction (except where a specific means, method, technique, sequence, or Procedure of construction is indicated in or required by the Contract Documents) or to safety Precautions or Programs incident thereto. The review of a separate item as such will not indicate review of the assembly in which the item functions. CONTRACTOR

shall make corrections required by ENGINEER, and shall return the required number of corrected copies of shop drawings and submit as required new samples for review. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on Previous submittals.

ENGINEER's review of submittals shall not relieve CONTRACTOR from the responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER's attention to each such variation at the time of submission and ENGINEER has given written approval of each such variation by a specific written notation thereof incorporated therein or accompanying the shop drawing or sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for errors or omissions in the shop drawings or from responsibility for having complied with the Provisions herein. Where a shop drawing or sample is required by the specifications, any related work performed prior to ENGINEER's review and approval of the pertinent submission shall be at the sole expense and responsibility of the CONTRACTOR.

31. DETAIL DRAWINGS AND INSTRUCTIONS

The ENGINEER will furnish, with reasonable Promptness, additional instructions by means of Drawings or otherwise, if, in the ENGINEER's opinion, such are required for the Proper execution of the work. All such Drawings and instructions will be consistent with the Contract Documents, true developments thereof, and reasonably inferable there from.

<u>THE CONTRACTOR AND HIS EMPLOYEES</u>

32. CONTRACTOR, AN INDEPENDENT AGENT

The CONTRACTOR shall independently perform all work under this Contract and shall not be considered as an agent of the OWNER or of the ENGINEER, nor shall the CONTRACTOR's SUBCONTRACTORS or employees be subagents of the OWNER or of the ENGINEER.

33. SUBCONTRACTING

Unless modified in the Supplementary Conditions, within 10 days after the execution of the Contract, the CONTRACTOR shall submit to the ENGINEER the names of all SUBCONTRACTORS Proposed for the work, including the names of any SUBCONTRACTORS that were submitted with the Bid. The CONTRACTOR shall not employ any SUBCONTRACTORS to which the OWNER may object to as lacking capability to properly perform work of the type and scope anticipated.

The CONTRACTOR is as fully responsible to the OWNER for the acts and omissions of his SUBCONTRACTORS and of persons either directly or indirectly employed by them as he is for the acts and omissions of persons directly employed by him.

Nothing contained in the Contract Documents shall create any contractual relationship between any SUBCONTRACTOR and the OWNER or ENGINEER.

34. INSURANCE AND LIABILITY

A. GENERAL

The CONTRACTOR shall provide (from insurance companies acceptable to the OWNER) the insurance coverage designated hereinafter and pay all costs before commencing work under this Contract. The CONTRACTOR shall furnish the OWNER with certificates of insurance specified herein showing the type, amount class of operations covered, effective dates, and date of expiration of policies, and containing substantially the following statement:
"The insurance covered by this certificate shall not be canceled or materially altered, except after 30 days' written notice has been received by the OWNER."

In case of the breach of any Provision of this Article, the OWNER, at his option, may take out and maintain, at the expense of the CONTRACTOR, such insurance as the OWNER may deem Proper and may deduct the cost of such insurance from any monies which may be due or become due the CONTRACTOR under this Contract.

B. CONTRACTOR AND SUBCONTRACTOR INSURANCE

The CONTRACTOR shall not commence work under this Contract until he has obtained all the insurance required hereunder and

such insurance has been reviewed by the OWNER, nor shall the CONTRACTOR allow any SUBCONTRACTOR to commence work on his subcontract until insurance specified below has been obtained. Review of the insurance by the OWNER shall not relieve or decrease the liability of the CONTRACTOR hereunder.

C. COMPENSATION AND EMPLOYER'S LIABILITY INSURANCE

The CONTRACTOR shall maintain during the life of this Contract the statutory amount of Workmen's Compensation Insurance, in addition, Employer's Liability Insurance in an amount as specified in the Supplementary Conditions, for each occurrence, for all of his employees to be engaged in work on the Project under this Contract. In case any such work is subcontracted, the CONTRACTOR shall require the SUBCONTRACTOR to provide similar Workmen's Compensation and Employer's Liability Insurance for all of the SUBCONTRACTOR's employees to be engaged in such work.

D. GENERAL LIABILITY INSURANCE (INCLUDING AUTOMOBILE)

The CONTRACTOR shall maintain during the life of this Contract such general liability, completed operations and Products liability, and automobile liability insurance as will Provide coverage for claims for damages for personal injury, including accidental death, as well as for claims for Property damage, which may arise directly or indirectly from performance of the work under this Contract. The general liability policy shall include contractual liability assumed by the CONTRACTOR under Article **INDEMNITY.** Coverage for Property damage shall be on a "broad form" basis with no exclusions for "X, C & U". The amount of insurance to be provided shall be as specified in the Supplementary Conditions.

In the event any work under this Contract is performed by a SUBCONTRACTOR, the CONTRACTOR shall be responsible for any liability directly or indirectly arising out of the work performed by the SUBCONTRACTOR; to the extent such liability is not covered by the SUBCONTRACTOR's insurance.

The OWNER and ENGINEER, their officers, agents, and employees shall be named as Additional Insured's on the CONTRACTOR's and any SUBCONTRACTOR's general liability and automobile liability insurance policies for any claims arising out of work performed under this Contract.

E. BUILDERS RISK ALL RISK INSURANCE

Unless otherwise modified in the Supplementary Conditions, the CONTRACTOR shall secure and maintain during the life of this Contract, Builders Risk All Risk Insurance coverage in an amount equal to the full value of the facilities under construction. Such insurance shall include coverage for earthquake, landslide, flood, collapse, loss due to the results of faulty workmanship or design, and all other normally covered risks, and shall provide for losses to be paid to the CONTRACTOR, OWNER, and ENGINEER as their interests may appear.

The OWNER and ENGINEER, their officers, agents, and employees shall be named as additional insured's on the CONTRACTOR's and any SUBCONTRACTOR's Builders Risk All Risk insurance policies for any claims arising out of work performed under this Contract.

This insurance shall include a waiver of subrogation as to the ENGINEER, the OWNER, the CONTRACTOR, and their respective officers, agents, employees and SUBCONTRACTORS.

F. NO PERSONAL LIABILITY OF PUBLIC OFFICIALS

In carrying out any of the Provisions hereof in exercising any authority granted by the Contract, there will be no personal liability upon any public official.

35. INDEMNITY

To the maximum extent permitted by law, the CONTRACTOR shall indemnify and defend the OWNER and the ENGINEER, and their officers, employees, agents, and sub-consultants, from all claims and losses, including attorney's fees and litigation costs arising out of Property losses or health, safety, personal injury, or death claims by the CONTRACTOR, its SUBCONTRACTORS of any tier, and their employees, agents, or invitees regardless of the fault, breach of Contract, or negligence of the OWNER or ENGINEER, excepting only such claims or losses that have been adjudicated to have been caused solely by the negligence of the OWNER or the ENGINEER and regardless of whether or not the CONTRACTOR is or can be named a party in a litigation.

36. EXCLUSION OF CONTRACTOR CLAIMS

In performing its obligations, the ENGINEER and its consultants may cause expense for the CONTRACTOR or its SUBCONTRACTORS and equipment or material suppliers. However, those parties and their sureties shall maintain no direct action against the ENGINEER, its officers, employees, agents, and consultants for any claim arising out of, in connection with, or resulting from the Engineering services performed or required to be performed.

37. TAXES AND CHARGES

The CONTRACTOR shall withhold and pay any and all sales and use taxes and all withholding taxes, whether State or Federal, and pay all Social Security charges and also all State Unemployment Compensation charges, and pay or cause to be withheld, as the case may be, any and all taxes, charges, or fees or sums whatsoever, which are now or may hereafter be required to be paid or withheld under any laws.

38. REQUIREMENTS OF STATE LAW FOR PUBLIC WORKS PROJECTS

When the Contract Documents concern public works of the state or any county, municipality, or political subdivision created by its laws, the applicable statutes shall apply. All parties to this Contract shall determine the contents of all applicable statutes and comply with their Provisions throughout the performance of the Contract.

39. CODES, ORDINANCES, PERMITS AND LICENSES

The CONTRACTOR shall keep himself fully informed of all local codes and ordinances, as well as state and federal laws, which in any manner affect the work herein specified. The CONTRACTOR shall at all times comply with said codes and ordinances, laws, and regulations, and Protect and indemnify the OWNER, the ENGINEER and their respective employees, and its officers and agents against any claim or liability arising from or based on the violation of any such laws, ordinances, or regulations. All permits, licenses and inspection fees necessary for Prosecution and completion of the work shall be secured and paid for by the CONTRACTOR, unless otherwise specified.

40. SUPERINTENDENCE

The CONTRACTOR shall keep at the project site, competent supervisory personnel. The CONTRACTOR shall designate, in writing, before starting work, a Project superintendent who shall be an employee of the CONTRACTOR and shall have complete authority to represent and to act for the CONTRACTOR. ENGINEER shall be notified in writing prior to any change in superintendent assignment. The CONTRACTOR shall give efficient supervision to the work, using his best skill and attention. The CONTRACTOR shall be solely responsible for all construction means, methods, techniques, and Procedures, and for providing adequate safety Precautions and coordinating all portions of the work under the Contract. It is specifically understood and agreed that the ENGINEER, its employees and agents, shall not have control or charge of and shall not be responsible for the construction means, methods, techniques, procedures, or for providing adequate safety precautions in connection with the work under Contract.

41. RECEPTION OF ENGINEER'S COMMUNICATIONS

The superintendent shall receive for the CONTRACTOR all communications from the ENGINEER. Communications of major importance will be confirmed in writing upon request from the CONTRACTOR.

The ENGINEER may schedule Project meetings for the purposes of discussing and resolving matters concerning the various elements of the work. Time and place for these meetings and the names of persons required to be Present shall be as determined by the ENGINEER. CONTRACTOR shall comply with these attendance requirements and shall also require his SUBCONTRACTORS to comply.

42. SAFETY

The CONTRACTOR shall be solely and completely responsible for conditions of the jobsite, including safety of all persons (including employees) and Property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. Safety Provisions shall conform to U.S. Department of Labor (OSHA), and all other applicable federal,

state, county, and local laws, ordinances, codes, and regulations. Where any of these are in conflict, the more stringent requirement shall be followed. The CONTRACTOR's failure to thoroughly familiarize himself with the aforementioned safety Provisions shall not relieve him from compliance with the obligations and penalties set forth therein.

The CONTRACTOR shall develop and maintain for the duration of this Contract, a safety Program that will effectively incorporate and implement all required safety Provisions. The CONTRACTOR shall appoint an employee who is qualified and authorized to supervise and enforce compliance with the safety Program. The duty of the ENGINEER to conduct construction review of the work does not include review or approval of the adequacy of the CONTRACTOR's safety Program, safety supervisor, or any safety measures taken in, on, or near the construction site. The CONTRACTOR, as a part of his safety Program, shall maintain at his office or other well-known place at the jobsite, safety equipment applicable to the work as Prescribed by the aforementioned authorities, all articles necessary for giving first-aid to the injured, and shall establish the Procedure for the immediate removal to a hospital or a doctor's care of persons (including employees) who may be injured on the jobsite.

If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the ENGINEER and the OWNER. In addition, the CONTRACTOR must promptly report in writing to the ENGINEER all accidents whatsoever arising out of, or in connection with, the performance of the work whether on, or adjacent to, the site, giving full details and statements of witnesses.

If a claim is made by anyone against the CONTRACTOR or any SUBCONTRACTOR on account of any accident, the CONTRACTOR shall promptly report the facts in writing to the ENGINEER, giving full details of the claim.

43. PROTECTION OF WORK AND PROPERTY

The CONTRACTOR shall at all times safely guard and Protect from damage the OWNER's Property, adjacent Property, and his own work from injury or loss in connection with this Contract. All facilities required for Protection by federal, state, or municipal laws and regulations and local conditions must be provided and maintained. The CONTRACTOR shall Protect his work and materials from damage due to the nature of the work, the elements, carelessness of other CONTRACTORs, or from any cause whatever until the completion and acceptance of the work. All loss or damages arising out of the nature of the work to be done under these Contract Documents, or from any unforeseen obstruction or defects which may be encountered in the Prosecution of the work, or from the action of the elements, shall be sustained by the CONTRACTOR.

44. RESPONSIBILITY OF CONTRACTOR TO ACT IN AN EMERGENCY

In case of an emergency which threatens loss or injury of Property, and/or safety of life, the CONTRACTOR shall act, without previous instructions from the OWNER or ENGINEER, as the situation may warrant. The CONTRACTOR shall notify the ENGINEER thereof immediately thereafter. Any claim for compensation by the CONTRACTOR, together with substantiating documents in regard to expense, shall be submitted to the OWNER through the ENGINEER and the amount of compensation shall be determined by agreement.

45. MATERIALS AND APPLIANCES

Unless otherwise stipulated, the CONTRACTOR shall Provide and pay for all materials, labor, water, tools, equipment, heat, light, fuel, power, transportation, construction equipment and machinery, appliances, telephone, sanitary facilities, temporary facilities and other facilities and incidentals necessary for the execution and completion of the work.

Unless otherwise specified, all materials shall be new, and both workmanship and materials shall be of good quality. The CONTRACTOR shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

In selecting and/or approving equipment for installation in the Project, the OWNER and ENGINEER assume no responsibility for injury or claims resulting from failure of the equipment to comply with applicable federal, state, and local safety codes or requirements, or the safety requirements of a recognized agency, or failure due to faulty design concepts, or defective workmanship and materials.

46. CONTRACTORS' AND MANUFACTURERS' COMPLIANCE WITH STATE SAFETY, OSHA, AND OTHER CODE REQUIREMENTS

The completed work shall include all necessary permanent safety devices, such as machinery guards and similar ordinary safety items required by the state and federal (OSHA) industrial authorities and applicable local and national codes. Further, any features of the work subject to such safety regulations shall be fabricated, furnished, and installed (including OWNER-furnished equipment) in compliance with these requirements. CONTRACTORs and manufacturers of equipment shall be held responsible for compliance with the requirements included herein. CONTRACTORs shall notify all equipment suppliers and SUBCONTRACTORS of the Provisions of this Article.

47. SUBSTITUTION OF MATERIALS

Except for OWNER-selected equipment items, and items where no substitution is clearly specified, whenever any material, article, device, Product, fixture, form, type of construction, or Process is indicated or specified by patent or Proprietary name, by name of manufacturer, or by catalog number, such specifications shall be deemed to be used for the purpose of establishing a standard of quality and facilitating the description of the material or Process desired. This Procedure is not to be construed as eliminating from competition other Products of equal or better quality by other manufacturers where fully suitable in design, and shall be deemed to be followed by the words "or equal". The CONTRACTOR may, in such cases, submit complete data to the ENGINEER for consideration of another material, type, or Process that shall be substantially equal in every respect to that so indicated or specified. Substitute materials shall not be used unless approved in writing. The ENGINEER will be the sole judge of the substituted article or material.

48. TESTS, SAMPLES, AND OBSERVATIONS

The CONTRACTOR shall furnish, without extra charge, the necessary test pieces and samples, including facilities and labor for obtaining the same, as requested by the ENGINEER. When required, the CONTRACTOR shall furnish certificates of tests of materials and equipment made at the point of manufacture by a recognized testing laboratory.

The OWNER, ENGINEER, and authorized government agents, and their representatives shall at all times be Provided safe access to the work wherever it is in Preparation or Progress, and the CONTRACTOR shall Provide facilities for such access and for observations, including maintenance of temporary and permanent access.

If the Specifications, laws, ordinances, or any public authority require any work, to be specially tested or approved, the CONTRACTOR shall give timely notice of its readiness for observations. If any work should be covered up without approval or consent of the ENGINEER, it shall, if required by the ENGINEER, be uncovered for examination at the CONTRACTOR's expense. Reexamination of questioned work may be ordered by the ENGINEER, and, if so ordered, the work shall be uncovered by the CONTRACTOR. If such work is found to be in accordance with the Contract Documents, the OWNER will pay the cost of uncovering, exposure, observation, inspection, testing and reconstruction. If such work is found to be not in accordance with the Contract Documents, the CONTRACTOR shall correct the defective work, and the cost of reexamination and correction of the defective work shall be paid by the CONTRACTOR.

49. ROYALTIES AND PATENTS

The CONTRACTOR shall pay all royalty and licenses fees, unless otherwise specified. The CONTRACTOR shall defend all suits or claims for infringement of any patent rights and shall save the OWNER and the ENGINEER harmless from any and all loss, including reasonable attorneys' fees, on account thereof.

50. CONTRACTOR'S RIGHT TO TERMINATE CONTRACT

If the work should be stopped under an order of any court or other public authority for a period of more than 3 months, through no act or fault of the CONTRACTOR, its SUBCONTRACTORS, or respective employees or if the ENGINEER should fail to make recommendation for payment to the OWNER or return payment request to CONTRACTOR for revision within 30 days after it is due, or if the OWNER should fail to pay the CONTRACTOR within 30 days after time specified in Article PARTIAL PAYMENTS, any sum recommended by the ENGINEER, then the CONTRACTOR may, upon 15 days' written notice to the OWNER and the ENGINEER, stop work or terminate this Contract and recover from the OWNER payment for all acceptable work performed and reasonable termination expenses, unless said default has been remedied.

51. CORRECTION OF DEFECTIVE WORK DURING WARRANTY PERIOD

The CONTRACTOR hereby agrees to make, at his own expense, all repairs or replacements necessitated by defects in materials or workmanship, Provided under terms of this Contract, and pay for any damage to other works resulting from such defects, which become evident within 2 years after the date of final acceptance of the work or within 2 years after the date of substantial completion established by the ENGINEER for specified items of equipment, or within such longer period as may be Prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents. Un-remedied defects identified for correction during the warranty period but remaining after its expiration shall be considered as part of the obligations of the warranty. Defects in material, workmanship, or equipment which are remedied as a result of obligations of the warranty shall subject the remedied portion of the work to an extended warranty period of 2 years after the defect has been remedied.

The CONTRACTOR further assumes responsibility for a similar guarantee for all work and materials provided by SUBCONTRACTORS or manufacturers of packaged equipment components. The effective date for the start of the guarantee or warranty period for equipment qualifying as substantially complete is defined in Article SUBSTANTIAL COMPLETION, AND Article SUBSTANTIAL COMPLETION DATE, in these General Conditions.

The CONTRACTOR also agrees to hold the OWNER and the ENGINEER harmless from liability of any kind arising from damage due to said defects. The CONTRACTOR shall make all repairs and replacements promptly upon receipt of written order for same from the OWNER. If the CONTRACTOR fails to make the repairs and replacements promptly, or in an emergency where delay would cause serious risk, or loss, or damage, the OWNER may have the defective work corrected or the rejected work removed and replaced, and the CONTRACTOR and his Surety shall be liable for the cost thereof.

PROGRESS OF THE WORK

52. BEGINNING OF THE WORK

Following execution of the Contract, the CONTRACTOR shall meet with the OWNER and ENGINEER relative to his arrangements for prosecuting the work.

53. SCHEDULES AND PROGRESS REPORTS

Prior to starting the construction, the CONTRACTOR shall Prepare and submit to the ENGINEER, a Progress schedule showing the dates on which each part or division of the work is expected to be started and finished, and a Preliminary schedule for submittals. The Progress schedule for submittals shall be brought up to date and submitted to the ENGINEER at the end of each month or at such other times the ENGINEER may request.

The CONTRACTOR shall forward to the ENGINEER, at the end of each month, an itemized report of the delivery status of major and critical items of purchased equipment and material, including shop drawings and the status of shop and field fabricated work. These Progress reports shall indicate the date of the purchase order, the current percentage of completion, estimated delivery, and cause of delay, if any.

If the completion of any part of the work or the delivery of materials is behind the submitted Progress schedule, the CONTRACTOR shall submit in writing a plan acceptable to the OWNER and ENGINEER for bringing the work up to schedule.

The OWNER shall have the right to withhold Progress payments for the work if the CONTRACTOR fails to update and submit the Progress schedule and reports as specified.

54. PROSECUTION OF THE WORK

It is expressly understood and agreed that the time of beginning, rate of Progress, and time of completion of the work are the essence of this Contract. The work shall be prosecuted at such time, and in or on such part or parts of the Project as may be required, to complete the Project as contemplated in the Contract Documents and the Progress schedule.

If the CONTRACTOR desires to carry on work at night or outside the regular hours, he shall give timely notice to the ENGINEER to allow satisfactory arrangements to be made for observing the work in Progress.

55. OWNER'S RIGHT TO RETAIN IMPERFECT WORK

If any part or portion of the work completed under this Contract shall Prove defective and not in accordance with the Drawings and Specifications, and if the imperfection in the same shall not be of sufficient magnitude or importance as to make the work dangerous or unsuitable, or if the removal of such work will create conditions which are dangerous or undesirable, the OWNER shall have the right and authority to retain such work but will make such deductions in the final payment therefore as may be just and reasonable.

56. OWNER'S RIGHT TO DO WORK

Should the CONTRACTOR neglect to Prosecute the work in conformance with the Contract Documents or neglect or refuse at his own cost to remove and replace work rejected by the ENGINEER, then the OWNER may notify the Surety of the condition, and after 10 days' written notice to the CONTRACTOR and the Surety, or without notice if an emergency or danger to the work or public exists, and without Prejudice to any other right which the OWNER may have under Contract, or otherwise, take over that portion of the work which has been improperly or non-timely executed, and make good the deficiencies and deduct the cost thereof from the payments then or thereafter due the CONTRACTOR.

57. OWNER'S RIGHT TO TRANSFER EMPLOYMENT

If the CONTRACTOR should abandon the work or if he should persistently or repeatedly refuse or should fail to make prompt payment to SUBCONTRACTORS for material or labor, or to persistently disregard laws, ordinances, or to prosecute the work in conformance with the Contract Documents, or otherwise be guilty of a substantial violation of any Provision of the Contract or any laws or ordinance, then the OWNER may, without Prejudice to any other right or remedy, and after giving the CONTRACTOR and Surety 10 days' written notice, transfer the employment for said work from the CONTRACTOR to the Surety. Upon receipt of such notice, such Surety shall enter upon the Premises and take possession of all materials, tools, and appliances thereon for the purpose of completing the work included under this contract and employ by Contract or otherwise, any qualified person or persons to finish the work and Provide the materials therefore, in accordance with the Contract Documents, without termination of the continuing full force and effect of this contract. In case of such transfer of employment to such Surety, the Surety shall be paid in its own name on estimates according to the terms hereof without any right of the CONTRACTOR to make any claim for the same or any part thereof.

If, after the furnishing of said written notice to the Surety, the CONTRACTOR and the Surety still fail to make reasonable Progress on the performance of the work, the OWNER may terminate the employment of the CONTRACTOR and take possession of the Premises and of all materials, tools, and appliances thereon and finish the work by whatever method he may deem expedient and charge the cost thereof to the CONTRACTOR and the Surety. In such case, the CONTRACTOR shall not be entitled to receive any further payment until the work is finished. If the expense of completing the Contract, including compensation for additional managerial and administrative services, shall exceed such unpaid balance, the CONTRACTOR and the Surety shall pay the difference to the OWNER.

58. DELAYS AND EXTENSION OF TIME

If the CONTRACTOR is delayed in the Progress of the work by any act or neglect of the OWNER or the ENGINEER, or by any separate CONTRACTOR employed by the OWNER, or by strikes, lockouts, fire, adverse weather conditions not reasonably anticipated, or acts of Nature, and if the CONTRACTOR, within 48 hours of the start of the occurrence, gives written notice to the OWNER of the cause of the potential delay and estimate of the possible time extension involved, and within 10 days after the cause of the delay has been remedied, the CONTRACTOR gives written notice to the OWNER of any actual time extension requested as a result of the aforementioned occurrence, then the Contract time may be extended by change order for such reasonable time as the ENGINEER determines. It is agreed that no claim shall be made or allowed for any damages, loss, or expense which may arise out of any delay caused by the above referenced acts or occurrences other than claims for the appropriate extension of time. No extension of time will be granted to the CONTRACTOR for delays occurring to parts of the work that have no measurable impact on the completion of the total work under this Contract. No extension of time will be considered for weather conditions reasonably anticipated for the area in which the work is being performed. Reasonably anticipated weather conditions will be based on official records of monthly Precipitation and other historical data. Adverse weather conditions, if determined to be of a severity that would impact Progress of the work, may be considered as cause for an extension of Contract completion time.

Delays in delivery of equipment or material purchased by the CONTRACTOR or his SUBCONTRACTORS, including OWNER-selected equipment shall not be considered as a just cause for delay, unless the OWNER determines that for good cause the delay is beyond the control of the CONTRACTOR. The CONTRACTOR shall be fully responsible for the timely ordering, scheduling, complete the work is the per-diem rate, as stipulated in the Bid. The said amount is hereby agreed upon as a reasonable estimate of

the costs, which may be accrued by the OWNER after the expiration of the time of completion. It is expressly under- stood and agreed that this amount is not to be considered in the nature of a penalty, but as liquidated damages which have accrued against the CONTRACTOR. The OWNER shall have the right to deduct such damages from any amount due, or that may become due the CONTRACTOR, or the amount of such damages shall be due and collectible from the CONTRACTOR or Surety.

59. DIFFERING SITE CONDITIONS

The CONTRACTOR shall promptly, and before the conditions are disturbed, give a written notice to the OWNER and ENGINEER of:

A. subsurface or latent physical conditions at the site which differ materially from those indicated in this contract,
B. unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract.

The ENGINEER will investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the CONTRACTOR's cost of, or the time required for, performing any part of the work under this Contract, whether or not changed as a result of the conditions, and equitable adjustment shall be made under this Article and the Contract modified in writing accordingly.

No request by the CONTRACTOR for an equitable adjustment to the Contract under this Article will be allowed, unless the CONTRACTOR has given the written notice required; provided that the time prescribed above for giving written notice may be extended by the OWNER.

No request by the CONTRACTOR for an equitable adjustment to the Contract for differing site conditions will be allowed if made after final payment under this Contract.

60. LIQUIDATED DAMAGES

Should the CONTRACTOR fail to complete the work, or any part thereof, in the time agreed upon in the Contract or within such extra time as may have been allowed for delays by extensions granted as Provided in the Contract, the CONTRACTOR shall reimburse the OWNER for the additional expense and damage for each calendar day, Sundays and legal holidays included, that the Contract remains uncompleted after the Contract completion date. It is agreed that the amount of such additional expense and damage incurred by reason of failure to complete the work is the per-diem rate, as stipulated in the Bid. The said amount is hereby agreed upon as a reasonable estimate of the costs which may be accrued by the OWNER after the expiration of the time of completion. It is expressly under- stood and agreed that this amount is not to be considered in the nature of a penalty, but as liquidated damages which have accrued against the CONTRACTOR. The OWNER shall have the right to deduct such damages from any amount due, or that may become due the CONTRACTOR, or the amount of such damages shall be due and collectible from the CONTRACTOR or Surety.

61. OTHER CONTRACTS

The OWNER reserves the right to let other Contracts in connection with the work. The CONTRACTOR shall afford other CONTRACTORs reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly connect and coordinate his work with theirs.
If any part of the work under this Contract depends for Proper execution or results upon the work of any other CONTRACTOR, utility service company or OWNER, the CONTRACTOR shall inspect and Promptly report to the ENGINEER in writing any patent or apparent defects to deficiencies in such work that render it unsuitable for such Proper execution and results. The CONTRACTOR's failure to so report shall constitute and acceptance of the work by others as being fit and Proper for integration with work under this Contract, except for latent or non-apparent defects and deficiencies in the work.

62. USE OF PREMISES

The CONTRACTOR shall confine his equipment, the storage of materials and the operation of his workers to limits shown on the Drawings or indicated by law, ordinances, permits, or directions of the ENGINEER, and shall not unreasonably encumber the Premises with his materials. The CONTRACTOR shall provide, at his own expense, the necessary rights-of-way and access to the work, which may be required outside the limits of the OWNER's Property and shall furnish the ENGINEER copies of permits and agreements for use of the Property outside that provided by the OWNER.

The CONTRACTOR shall not load nor permit any part of the structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the work or adjacent Property to stresses or Pressures that will endanger it.

63. SUBSTANTIAL COMPLETION DATE

The ENGINEER may issue a written notice of substantial completion for the purpose of establishing the starting date for specific equipment guarantees, and to establish the date that the OWNER will assume the responsibility for the cost of operating such equipment. Said notice shall not be considered as final acceptance of any portion of the work or relieve the CONTRACTOR from completing the remaining work within the specified time and in full compliance with the Contract Documents. See SUBSTANTIAL COMPLETION under DEFINITIONS of these General Conditions.

64. PERFORMANCE TESTING

Operating equipment and systems shall be performance tested in the Presence of the ENGINEER to demonstrate compliance with the specified requirements. Performance testing shall be conducted under the specified design operating conditions or under such simulated operating conditions as recommended or approved by the ENGINEER. Schedule such testing with the ENGINEER at least one week in advance of the planned date for testing.

65. OWNER'S USE OF PORTIONS OF THE WORK

Following issuance of the written notice of Substantial Completion, the OWNER may initiate operation of the facility. Such use shall not be considered as final acceptance of any portion of the work, nor shall such use be considered as cause for an extension of the Contract completion time, unless authorized by a Change Order issued by the OWNER.

66. CUTTING AND PATCHING

The CONTRACTOR shall do all cutting, fitting, or patching of his work that may be required to make its several parts come together Properly and fit it to receive or be received by work of other CONTRACTORs shown upon or reasonably implied by the Drawings.

67. CLEANING UP

The CONTRACTOR shall, at all times, keep Property on which work is in Progress and the adjacent Property free from accumulations of waste material or rubbish caused by employees or by the work. Upon completion of the construction, the CONTRACTOR shall remove all temporary structures, rubbish, and waste materials resulting from his operations.

PAYMENT

68. PAYMENT FOR CHANGE ORDERS

The OWNER's request for quotations on alterations to the work shall not be considered authorization to proceed with the work expediting, delivery, and installation of all equipment and materials. Within a reasonable period after the CONTRACTOR submits to the OWNER a written request for an extension of time, the ENGINEER will Present his written opinion to the OWNER as to whether an extension of time is justified, and, if so, his recommendation as to the number of days for time extension. The OWNER will make the final decision on all requests for extension of time.

Prior to the issuance of a formal Change Order, nor shall such request justify any delay in existing work. Quotations for alterations to the work shall include substantiating documentation with an itemized breakdown of CONTRACTOR and SUBCONTRACTOR costs, including labor, material, rentals, approved services, overhead, and profit. OWNER may require detailed cost data in order to substantiate the reasonableness of the proposed costs.

Any compensation paid in conjunction with the terms of a Change Order shall comprise total compensation due the CONTRACTOR for the work or alteration defined in the Change Order. By signing the Change Order, the CONTRACTOR acknowledges that the stipulated compensation includes payment for the work or alteration plus all payment for the interruption of schedules, extended overhead, delay, or any other impact claim or ripple effect, and by such signing specifically waives any reservation or claim for additional compensation in respect to the subject Change Order.

At the OWNER's option, payment or credit for any alterations covered by a Change Order shall be determined by one or a combination of the methods set forth in A, B, or C below, as applicable:

A. UNIT PRICES

Those unit Prices stipulated in the Bid shall be utilized where they are applicable. In the event the Change Order results in a change in the original quantity that is materially and significantly different from the original bid quantity, a new unit Price shall be negotiated upon demand of either party. Unit Prices for new items included in the Change Order shall be negotiated and mutually agreed upon.

B. LUMP SUM

A total lump sum for the work negotiated and mutually acceptable to the CONTRACTOR and the OWNER. Lump sum quotations for modifications to the work shall include substantiating documentation with an itemized breakdown of CONTRACTOR and SUBCONTRACTOR costs, including labor, material, rentals, approved services, overhead, and Profit, all calculated as specified under "C" below.

C. COST REIMBURSEMENT WORK

The term "cost reimbursement" shall be understood to mean that payment for the work will be made on a time and expense basis, that is, on an accounting of the CONTRACTOR's forces, materials, equipment, and other items of cost as required and used to do the work.

If the method of payment cannot be agreed upon Prior to the beginning of the work, and the OWNER directs by written Change Order that the work be done on a cost reimbursement basis, then the CONTRACTOR shall furnish labor, and furnish and install equipment and materials necessary to complete the work in a satisfactory manner and within a reasonable period of time. For the work performed, payment will be made for the documented actual cost of the following:

1. Labor including foremen for those hours they are assigned and participating in the cost reimbursement work (actual payroll cost, including wages, fringe benefits as established by negotiated labor agreements, labor insurance, and labor taxes as established by law). No other fixed labor burdens will be considered, unless approved in writing by the OWNER.
2. Material delivered and used on the designated work, including sales tax, if paid by the CONTRACTOR or his SUBCONTRACTOR.
3. Rental or equivalent rental cost of equipment, including necessary transportation for items having a value in excess of $100. Rental or equivalent rental cost will be allowed for only those days or hours during which the equipment is in actual use. Rental and transportation allowances shall not exceed the current rental rates prevailing in the locality. The rentals allowed for equipment will, in all cases, be understood to cover all fuel, supplies, repairs, and renewals, and no further allowances will be made for those items, unless specific agreement to that effect is made.
4. Additional bond, as required and approved by the OWNER.
5. Additional insurance (other than labor insurance) as required and approved by the OWNER.

In addition to items 1 through 5 above, an added fixed fee for general overhead and Profit shall be negotiated and allowed for the CONTRACTOR (or approved SUBCONTRACTOR) actually executing the Cost Reimbursement work.

An additional fixed fee shall be negotiated and allowed the CONTRACTOR for the administrative handling of portions of the work that are executed by an approved SUBCONTRACTOR. No additional fixed fee will be allowed for the administrative handling of work executed by a SUBCONTRACTOR of a SUBCONTRACTOR, unless by written permission from the OWNER.

The added fixed fees shall be considered to be full compensation, covering the cost of general supervision, overhead, Profit, and any other general expense. The CONTRACTOR's records shall make clear distinction between the direct costs of work paid for on a cost reimbursement basis and the costs of other work. The CONTRACTOR shall furnish the ENGINEER report sheets in duplicate of each day's cost reimbursement work no later than the working day following the performance of said work. The daily report sheets shall itemize the materials used, and shall cover the direct cost of labor and the charges for equipment rental, whether furnished by the CONTRACTOR, SUBCONTRACTOR or other forces. The daily report sheets shall provide names or identifications and classifications of workers, the hourly rate of pay and hours worked, and also the size, type, and identification number of equipment and hours operated.

Material charges shall be substantiated by valid copies of vendors' invoices. Such invoices shall be submitted with the daily report sheets, or, if not available, they shall be submitted with subsequent daily report sheets. Said daily report sheets shall be signed by the CONTRACTOR or his authorized agent.

The OWNER reserves the right to furnish such materials and equipment as he deems expedient and the CONTRACTOR shall have no claim for profit or added fees on the cost of such materials and equipment. To receive partial payments and final payment for cost reimbursement work, the CONTRACTOR shall submit to the ENGINEER, detailed and complete documented verification of the CONTRACTOR's and any of his SUBCONTRACTORS' actual costs involved in the cost reimbursement work. Such costs shall be submitted within 30 days after said work has been performed.

69. PARTIAL PAYMENTS

A. GENERAL

Nothing in this Article shall be construed to affect the right, hereby reserved, to reject the whole or any part of the aforesaid work, should such work be later found not to comply with the Provisions of the Contract Documents. All estimated quantities of work for which partial payments have been made are subject to review and correction on the final estimate. Payment by the OWNER and acceptance by the CONTRACTOR of partial payments based on periodic estimates of quantities of work performed shall not, in any way, constitute acceptance of the estimated quantities used as a basis for computing the amounts of the partial payments.

B. ESTIMATE

At least 30 days before each Progress payment falls due, as specified in the Supplementary Conditions, the CONTRACTOR shall submit to the ENGINEER a detailed estimate of the amount earned during the Preceding month for the separate portions of the work, and request payment. As used in this Article, the words "amount earned" means the value, on the date of the estimate for partial payment, of the work completed in accordance with the Contract Documents, and the value of approved materials delivered to the Project site suitable stored and Protected Prior to incorporation into the work.

ENGINEER will, within 7 days after receipt of each request for payment, either indicate in writing a recommendation of payment and present the request to OWNER, or return the request to CONTRACTOR indicating in writing ENGINEER's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may, within 7 days, make the necessary corrections and resubmit the request.

ENGINEER may refuse to recommend the whole or any part of any payment if, in his opinion, it would be incorrect to make such representations to OWNER. ENGINEER may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended to such an extent as may be necessary in ENGINEER's opinion to protect the OWNER from loss because:

1. The work is defective, or completed work has been damaged requiring correction or replacement;

2. Written claims have been made against OWNER or Liens have been filed in connection with the work;
3. The Contract Price has been reduced because of Change Orders;

4. OWNER has been required to correct defective work or complete the work in accordance with Article OWNER'S RIGHT TO DO WORK;

5. Of CONTRACTOR's unsatisfactory Prosecution of the work in accordance with the Contract Documents; or

6. CONTRACTOR's failure to make payment to SUBCONTRACTORS or for labor, materials, or equipment.

C. DEDUCTION FROM ESTIMATE

Unless modified in the Supplementary Conditions, deductions from the estimate will be as described below:

1. The OWNER will deduct from the estimate, and retain as part security, 10 percent of the amount earned for work satisfactorily completed. A deduction and retainage of 10 percent will be made on the estimated amount earned for

approved items of material delivered to and properly stored at the jobsite but not incorporated into the work. When the work is 50 percent complete, the OWNER may reduce the retainage to 5 percent of the dollar value of all work satisfactorily completed to date provided the CONTRACTOR is making satisfactory progress and there is no specific cause for a greater retainage. The OWNER may reinstate the retainage up to 10 percent if the OWNER determines, at his discretion, that the CONTRACTOR is not making satisfactory progress or where there is other specific cause for such withholding.

D. QUALIFICATION FOR PARTIAL PAYMENT FOR MATERIALS DELIVERED

Unless modified in the Supplementary Conditions, qualification for partial payment for materials delivered but not yet incorporated into the work shall be as described below:

1. Materials, as used herein, shall be considered to be those items which are fabricated and manufactured material and equipment. No consideration shall be given to individual purchases of less than $200 for any one item.

2. To receive partial payment for materials delivered to the site, but not incorporated in the work, it shall be necessary for the CONTRACTOR to include a list of such materials on the Partial Payment Request. At his sole discretion, the ENGINEER may approve items for which partial payment is to be made. Partial payment shall be based on the CONTRACTOR's actual cost for the materials as evidenced by invoices from the supplier. Proper storage and Protection shall be provided by the CONTRACTOR, and as approved by the ENGINEER. Final payment shall be made only for materials actually incorporated in the work and, upon acceptance of the work, all materials remaining for which advance payments had been made shall revert to the CONTRACTOR, unless otherwise agreed, and partial payments made for these items shall be deducted from the final payment for the work.

3. CONTRACTOR warrants and guarantees that title to all work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER at the time of payment free and clear of all liens, claims, security interests, and encumbrances.
4. If requested by the ENGINEER, the CONTRACTOR shall provide, with subsequent pay requests, invoices receipted by the supplier showing payment in full has been made.

E. PAYMENT

After deducting the retainage and the amount of all previous partial payments made to the CONTRACTOR from the amount earned, the amount due will be made payable to the CONTRACTOR. Recommendations for payment received by the OWNER less than 9 days Prior to the scheduled day for payment will not be Processed or paid until the following month.

70. CLAIMS FOR EXTRA WORK

In any case where the CONTRACTOR deems additional time or compensation will become due him under this Contract for circumstances other than those defined in Article DELAYS AND EXTENSION OF TIME, the CONTRACTOR shall notify the ENGINEER, in writing, of his intention to make claim for such time or compensation before he begins the work on which he bases the claim, in order that such matters may be settled, if possible, or other appropriate action taken. The notice of claim shall be in duplicate, in writing, and shall state the circumstances and the reasons for the claim, but need not state the amount. If such notification is not given or if the ENGINEER is not afforded proper facilities by the CONTRACTOR for keeping strict account of actual cost, then the CONTRACTOR hereby agrees to waive the claim for such additional time or compensation. Such notice by the CONTRACTOR, and fact that the ENGINEER has kept account of the cost as aforesaid, shall not in any way be construed as proving the validity of the claim.

No extension of time will be granted to the CONTRACTOR for delays resulting from extra work that have no measurable impact on the completion of the total work under this Contract. Claims for additional time or compensation shall be made in itemized detail and submitted, in writing, to the OWNER and ENGINEER within 10 days following completion of that portion of the work for which the CONTRACTOR bases his claim. Failure to make the claim for additional compensation in the manner and within the time specified above shall constitute waiver of that claim. In case the claim is found to be just, it shall be allowed and paid for as provided in Article PAYMENT FOR CHANGE ORDERS.

71. RELEASE OF LIENS OR CLAIMS

The CONTRACTOR shall indemnify and hold harmless the OWNER from all claims for labor and materials furnished under this

Contract. Prior to the final payment, the CONTRACTOR shall furnish to the OWNER, as part of his final payment request, a certification that all of the CONTRACTOR's obligations on the project have been satisfied and that all monetary claims and indebtedness have been paid. The CONTRACTOR shall furnish complete and legal effective releases or waivers, satisfactory to the OWNER, of all liens arising out of or filed in connection with the work.

72. FINAL PAYMENT

Upon completion of all the work under this Contract, the CONTRACTOR shall notify the ENGINEER, in writing, that he has completed his part of the Contract and shall request final payment. Upon receipt of such notice the ENGINEER will inspect and, if acceptable, submit to the OWNER his recommendation as to acceptance of the completed work and as to the final estimate of the amount due the CONTRACTOR. Upon approval of this final estimate by the OWNER and compliance by the CONTRACTOR with Provisions in Article **RELEASE OF LIENS OR CLAIMS,** and other Provisions as may be applicable, the OWNER shall pay to the CONTRACTOR all monies due him under the Provisions of these Contract Documents.

73. NO WAIVER OF RIGHTS

Neither the inspection by the OWNER, through the ENGINEER or any of his employees, nor any order by the OWNER for payment of money, nor any payment for, or acceptance of, the whole or any part of the work by the OWNER or ENGINEER, nor any extension of time, nor any possession taken by the OWNER or its employees, shall operate as a waiver of any Provision of this Contract, or any power herein reserved to the OWNER, or any right to damages herein Provided, nor shall any waiver of any breach in this Contract be held to be a waiver of any other or subsequent breach. Acceptance or final payment shall not be final and conclusive with regards to latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the OWNER's rights under the warranty.

74. ACCEPTANCE OF FINAL PAYMENT CONSTITUTES RELEASE

The acceptance by the CONTRACTOR of the final payment shall release the OWNER and the ENGINEER, as representatives of the OWNER, from all claims and all liability to the CONTRACTOR for all things done or furnished in connection with the work, and every act of the OWNER and others relating to or arising out of the work except claims Previously made in writing and still unsettled. No payment, however, final or otherwise, shall operate to release the CONTRACTOR or his Sureties from obligations under this Contract and the Performance Bond, Payment Bond, and other bonds and warranties, as herein provided.

SUPPLEMENTARY CONDITIONS

The General Conditions are hereby revised as follows:

ARTICLE 9 "ENGINEER"

Delete Article "ENGINEER" in its entirety and substitute the following:

The person or organization identified as such in the Contract Documents. The Term "ENGINEER" means K2M Designs or his authorized representative.

ARTICLE 32 "CONTRACTOR, AN INDEPENDENT AGENT"

Add the following:

A. ASSIGNMENT OF CONTRACT

Assignment of any part or the whole of this Contract shall be subject to review and approval of the City Commission

ARTICLE 34 "INSURANCE & LIABILITY"

Delete Articles 34 A, B, C, D & E and substitute the following:

Contractor shall maintain limits no less than those stated below:

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	$1,000,000	Combined Single Limit
General Liability	$2,000,000	Aggregate (Per Project)
	$2,000,000	Products Aggregate
	$1,000,000	Any One Occurrence
	$1,000,000	Personal Injury
	$ 300,000	Fire Damage/Legal
Additional Umbrella Liability	$2,000,000	Occurrence / Aggregate

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	$1,000,000
Bodily Injury by Disease Each Employee	$1,000,000
Bodily Injury by Disease Policy Limit	$1,000,000

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 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.

Add the following Article:

B. 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. If requested, Contractor shall Provide Proof of Florida Licensure for all insurance companies. The City of Key West shall be named as Additional Insured on the insurance certificates.

See sample insurance forms on next seven (7) pages

ARTICLE 35 “INDEMNITY”

Delete Article “INDEMNITY” in its entirety and substitute the following:

INDEMNITY

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 the Work. This indemnification shall continue beyond the date of completion of the work.

ARTICLE 39 "CODES, ORDINANCES, PERMITS, AND LICENSES"

Add the following:

A. NOISE ORDINANCE

City of Key West has a noise ordinance that allows working hours between 8:00 AM to 7:00 PM, Monday through Friday. No work should be performed during weekends or City Holidays, State Holidays and National Holidays. Any construction operations outside these hours and these days will require a variance from the City of Key West Commission.

B. "LICENSES"

THE BIDDER MUST BE A LICENSED CONTRACTOR BY THE STATE OF FLORIDA AND SUBMIT PROOF OF SUCH WITH THE BID.

1. Within 10 days of Notice of Award, the successful Bidder must represent that he holds all applicable, county, and City of Key West licenses and permits required to do business as a contractor with respect to the work described in the Contract Documents.

2. Further, the successful Bidder must, within 10 days of Notice of Award, furnish documentation showing that, as a minimum, he has complied with the provisions of Chapter 18 of the Code of Ordinances of the City of Key West to enter the Agreement contained in the Contract Documents.

3. Specifically, within 10 days after Notice of Award, the successful Bidder must demonstrate that he holds, as a minimum, the following licenses and certificates:

   a.) City of Key West Tax License Receipt;
   b.) A valid Certificate of Competency issued by the Chief Building Official of Key West, Florida
   c.) A valid occupational license issued by the City of Key West, Florida.

ARTICLE 40 “SUPERINTENDENCE”

Add the following sub article:

The CONTRACTOR shall keep at the project site, competent supervisory personnel, able to read, write and speak English to effectively communicate with City staff.

ARTICLE 42 "SAFETY"

Add the following sub article:

OCCUPATIONAL SAFETY AND HEALTH

The Contractor shall observe and comply with all applicable local, state, and federal occupational safety and health regulations during the prosecution of work under this Contract. In addition, full compliance by the Contractor with the U.S. Department of Labor's Occupational Safety and Health Standards, as established in Public Law 91-596, will be required under the terms of this Contract.

ARTICLE 43 "PROTECTION OF WORK AND PROPERTY"

Add the following Article:

HISTORIC PRESERVATION

The Contractor shall comply with Florida's Archives and Historic Act (Florida Statutes, Chapter 267) and the regulations of the local historic preservation board as applicable and protect against the potential loss or destruction of significant historical or archaeological data, sites, and properties in connection with the project.

ARTICLE 57 “OWNERS RIGHT TO TRANSFER EMPLOYMENT”

Add the following Article:

TERMINATION FOR CONVENIENCE AND RIGHT OF SUSPENSION

A. Owner shall have the right to terminate this Contract without cause by written notice of Termination to the Contractor. In the event of such termination for convenience, the Contractor’s recovery against the Owner shall be limited to that portion of the Contract amount earned through the date of termination, together with any retainage withheld and reasonable termination expenses incurred. Contractor shall not be entitled to any other or further recovery against the Owner, including, but not limited to, damages or any anticipated profit on portions of the Work not performed.

B. The Owner shall have the right to suspend all or any portions of the Work upon giving the Contractor prior written notice of such suspension. If all or any portion of the Work is so suspended, the Contractor shall be entitled to reasonable costs, expenses and time extension associated with the suspension.

ARTICLE 60 "LIQUIDATED DAMAGES"

Delete Article "LIQUIDATED DAMAGES" in its entirety and substitute the following:
LIQUIDATED DAMAGES

Should the Contractor fail to complete the work or any part thereof in the time agreed upon in the Contract Documents or within such extra time as may have been allowed for delays by extensions granted as provided in the Contract, the Contractor shall reimburse the Owner for the additional expense and damage for each calendar day that project outlined in Contract Documents remains uncompleted after the completion date. Liquidated damages shall be assessed. It is agreed that the amount of such additional expense and damage incurred by reason of failure to complete the work is the per diem rate as stipulated in the Bid. The said amount is hereby agreed upon as a reasonable estimate of the costs which may be accrued by the Owner after the expiration of the time of completion. It is expressly understood and agreed that this amount is not to be considered in the nature of a penalty but as liquidated damages, which have accrued against the Contractor. The Owner shall have the right to deduct such damages from any amount due or that may become due the Contractor or the amount of such damages shall be due and collectible from the Contractor.

ARTICLE 68 “PAYMENT”

Sub article C. “COST REIMBURSEMENT WORK”

Delete the third & fourth paragraph in its entirety & substitute the following;

In addition to 1 through 5 above, an added fixed fee of 15 percent (%) for general overhead & profit shall be allowed for the CONTRACTOR (or approved SUBCONTRACTOR) executing the Cost Reimbursement work.

An additional fixed fee of 5 % will be allowed the CONTRACTOR for the administrative handling of portions of the work that are executed by an approved SUBCONTRACTOR. No additional fixed fee will be allowed for the administrative handling of work executed by the SUBCONTRACTOR of a SUBCONTRACTOR.

ARTICLE 69 "PARTIAL PAYMENTS"

Delete the first paragraph of Sub Article B. "ESTIMATE" and substitute the following:

No more than once each month the Contractor shall submit to the ENGINEER a detailed estimate of the amount earned during the preceding month for the separate portions of the work and request payment. As used in this Article the words "amount earned" means the value, on the date of the estimate, for partial payment of the work completed in accordance with the Contract Documents and the value of approved materials delivered to the project site suitably stored and protected prior to incorporation into the work. Payment will be made by the Owner to the Contractor within 40 days receipt of the written recommendation of payment from the ENGINEER.

Sub Article C. “DEDUCTION FROM ESTIMATE

Delete third sentence in its entirety and substitute add the following;

1. When the work is 90 per cent complete, the OWNER may reduce the retainage to 5 percent of the dollar value of all work satisfactorily completed to date provided the CONTRACTOR is making satisfactory progress and there is no specific cause for greater retainage.

Delete Sub Article E. "PAYMENT" in its entirety and substitute the following:

After deducting the retainage and the amount of all previous partial payments made to the Contractor from the amount earned the amount due will be made payable to the Contractor. Recommendations for payment received by the Owner less than 40 days prior to the scheduled day for payment will not be processed or paid until the following month.

ARTICLE 72 "FINAL PAYMENT"
Delete Article "FINAL PAYMENT" in its entirety and substitute the following:

FINAL PAYMENT

Upon completion of the work the Contractor shall notify the ENGINEER, in writing, that he has completed it and shall request final payment. The Contractor shall be responsible for keeping an accurate and detailed record of his actual construction. Upon completion of construction and before final acceptance and payment the Contractor shall furnish the ENGINEER as-built drawings of his construction. Upon receipt of a request for final payment and the as-built drawings the ENGINEER will inspect and, if acceptable, submit to the Owner his recommendation as to acceptance of the completed work and as to the final estimate of the amount due the Contractor. Upon approval of this

final estimate by the Owner and compliance by the Contractor with provisions in Article RELEASE OF LIENS OR CLAIMS, and other provisions as may be applicable, the Owner shall pay to the Contractor all monies due him under the provisions of these Contract Documents.

A. Acceptance and Final Payment

Whenever the Contractor has completely performed the work provided for under the Contract and the ENGINEER has performed a final inspection and made final acceptance and subject to the terms of the ENGINEER will prepare a final estimate showing the value of the work as soon as the ENGINEER makes the necessary measurements and computations. The ENGINEER will correct all prior estimates and payments in the final estimate and payment. The OWNER will pay the estimate, less any sums that the OWNER may have deducted or retained under the provisions of the Contract, as soon as practicable after final acceptance of the work, provided the Contractor has met the requirements of (1) through (4) below.

1. The Contractor has agreed in writing to accept the balance due or refund the overpayment, as determined by the OWNER, as full settlement of his account under the Contract and of all claims in connection therewith, or the Contractor, accepted the balance due or refunded the overpayment, as determined by the OWNER, with the stipulation that his acceptance of such payment or the making of such refund does not constitute any bar, admission, or estoppel, or have any effect as to those payments in dispute or the subject of a pending claim between the Contractor and the OWNER. To receive payment based on a FINAL PAYMENT CERTIFCATE, The Contractor further agrees, by submitting a FINAL PAYMENT CERTIFICATE that any pending or future arbitration claim or suit is limited to those particulars, including the itemized amounts, defined in the original FINAL PAYMENT CERTIFICATE , and that he will commence with any such arbitration claim or suit within 15 calendar days from and after the time of final PAYMENT of the work and that his failure to file a formal claim within this period constitutes his full acceptance of the ENGINEER's final estimate and payment. The overpayment refund check from the Contractor, if required, will be considered a part of any Acceptance Letter executed.

2. The Contractor has properly maintained the project, as specified hereinbefore.

3. The Contractor has furnished a sworn affidavit to the effect that the Contractor has paid all bills and no suits are pending (other than those exceptions listed, if any) in connection with work performed under the Contract and that the Contractor has not offered or made any gift or gratuity to, or made any financial transaction of any nature with, any employee of the OWNER in the performance of the Contract.

4. Final payment will not be released until the City receives Certified As-built drawings in Auto Cad & Adobe format as well as:

As-Built Drawing Standards:

All supplied data collections, as-builts, drawings and files to be compatible with esri ArcGIS 10.2.2 Software. The current computing environment consists of:

- Microsoft SQL Server - Windows 7/Server 2008 - ESRI GIS Platform

Interfaces and Integrations:

The City of Key West uses a number of software applications critical to its core operation and mission. The proposed mobile asset data collection solution will need to interface or integrate with these existing platforms. - Arc Collector-ArcGIS Online - ArcMap 10.2

END OF SECTION

PART 4

GENERAL REQUIREMENTS

SECTION 01001
GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 PROJECT DESCRIPTION

A. A brief description of the work is stated in the Invitation to Bid. To determine the full scope of the project or of any part of the project, coordinate the applicable information in the several parts of these Contract Documents.

1.2 MOBILIZATION AND DEMOBILIZATION

A. Contractor shall be responsible for mobilization and demobilization of labor, materials and equipment. Payment for mobilization and demobilization will be included in the lump sum price indicated in the BID. Parking for vehicles used on site will be determined by the ENGINEER prior to mobilization.

1.3 SCHEDULING

A. Prior to starting the work, confer with the CITY to develop an approved work schedule. Which will permit the surrounding facilities to function as normally as practical. It may be necessary to do certain parts of the work outside normal working hours to avoid undesirable conditions. The Contractor shall do this work at such times and at no additional cost to the Owner.

B. SPECIAL EVENTS: Contractor may be asked to stop work during special events.

1.4 COORDINATION

A. Contractors shall cooperate in the coordination of their separate activities in a manner that will provide the least interference with the Owner's operations and other contractors and utility companies working in the area, and in the interfacing and connection of the separate elements of the overall project work.

B. If any difficulty or dispute should arise in the accomplishment of the above, the problem shall be brought immediately to the attention of the CITY.

C. CONTRACTOR shall notify all residents and proprietors adjacent to construction site of work to be performed, more specifically the notice shall state the day and time construction will begin, the name and phone number of the Contractor’s representative responsible for the completion of the proposed improvements. Notice shall also include the Owner’s representative for the project.

1.5 SITE INVESTIGATION AND REPRESENTATION

A. The Contractor acknowledges satisfaction as to the nature and location of the work, the general and local conditions, particularly those bearing upon availability of transportation, access to the site, disposal, handling and storage of materials, availability of labor, water,

electric power, roads, and uncertainties of weather, or similar physical conditions at the site, the conformation and conditions at the site, the character of equipment and facilities needed preliminary to and during the prosecution of the work, and all other matters which can any way affect the work or the cost thereof under this Contract.

B. The Contractor further acknowledges satisfaction as to character, quality, and quantity of surface and subsurface materials to be encountered from his inspection of the site and from reviewing any available records of exploratory work furnished by the Owner or included in these Documents. Failure by the Contractor to become acquainted with the physical conditions of the site and all available information will not relieve the Contractor from responsibility for properly estimating the difficulty or cost of successfully performing the work.

C. The Contractor warrants that as a result of examination and investigation of all the aforesaid data, the contractor can perform the work in a good and workmanlike manner and to the satisfaction of the Owner.

D. The Owner assumes no responsibility for any representations made by any of its officers or agents during or prior to the execution of this Contract, unless (1) such representations are expressly stated in the Contract, and (2) the Contract expressly provides that the responsibility therefore is assumed by the Owner.

1.6 UTILITIES

A. During excavation, the Contractor shall be responsible for determining, at his cost, the locations of all known utilities in the project area.

B. Contractor shall notify utility location service (e.g. Call Sunshine 1-800-432-4770) a minimum for 48 hours prior to work order mobilization. Assigned notification number shall be maintained at the job site at all times and recorded in the daily reports.

1.7 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTIES AND SERVICE

A. Where the Contractor's operations could cause damage or inconvenience to telephone, television, gas, water, sewer, or irrigation systems, the operations shall be suspended until all arrangements necessary for the protection of these utilities and services have been made by the Contractor.

B. Notify all utility offices, which are affected by the construction operation at least 48 hours in advance. Under no circumstances expose any utility without first obtaining permission from the appropriate agency. Once permission has been granted, locate, expose, and provide temporary support for all existing underground utilities.

C. The Contractor shall be solely and directly responsible to the Owner and operators of such properties for any damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of any character brought because of any injuries or damage which may result from the construction operations under this Contract

D. Neither the Owner nor its Officers or agents shall be responsible to the Contractor for damages as a result of the Contractor's failure to protect utilities encountered in the work.

E. In the event of interruption to domestic water, sewer, storm drain, or other utility services as a result of accidental breakage due to construction operations, promptly notify the proper authority. Cooperate with said authority in restoration of service as promptly as possible and bear all costs of repair. In no case shall interruption of any water or utility service be allowed to exist outside working hours unless prior approval is granted.

F. In the event the Contractor encounters water service lines that interfere with trenching, he may, by obtaining prior approval of the property owner, Florida Keys Aqueduct Authority (FKAA), or Fire Department as applicable, and the ENGINEER, cut the service dig through, and restore service with similar and equal materials at the Contractor's expense.

G. The Contractor shall replace, at his own expense, all existing utilities or structures removed or damaged during construction, unless otherwise provided for in these Contract Documents or ordered by the ENGINEER.

1.8 TEMPORARY WATER

A. The Contractor shall make arrangements with Owner to obtain suitable water located on the project site.

1.9 TEMPORARY ELECTRIC POWER

A. The Contractor shall make his own arrangements to obtain and pay for electrical power used until final acceptance by the Owner.

1.10 SAFETY REQUIREMENTS FOR TEMPORARY ELECTRIC POWER

A. Temporary electric power installation shall meet the construction Safety requirements of OSHA, State, and other governing agencies.

1.11 SANITARY FACILITIES

A. The Contractor shall provide and maintain sanitary facilities for his employees and his subcontractor's employees that will comply with the regulations of the local and State Departments of Health and as directed by the Owner.

1.12 STORAGE OF MATERIALS

A. Materials shall be so stored as to ensure the preservation of their quality and fitness for the work. When considered necessary, they shall be placed on wooden platforms or other clean hard surfaces and not on the ground. Stored materials shall be located so as to facilitate prompt inspection. Stored materials on city property must safe and secured from the general public and if necessary they must be fitted with lights at night. Private property shall not be used for storage purposes without the written permission of the owner or lessee. Materials shall not be stored where access to any structure, plot, or road is blocked. Location of stored materials approved by the ENGINEER or his designee.

B. Delicate instruments and materials subject to vandalism shall be placed under lock cover and, if necessary, provided with temperature control as recommended by the manufacturer.

1.13 CONSTRUCTION SAFETY PROGRAM

A. The Contractor shall develop and maintain for the duration of this Contract, a safety program that will effectively incorporate and implement all required safety provisions. The Contractor shall appoint an employee who is qualified and authorized to supervise and enforce compliance with the safety program.

B. The duty of the ENGINEER to conduct construction review of the Contractor's performance is not intended to include a review or approval of the adequacy of the Contractor's safety supervisor, the safety program or any safety measures taken in, on, or near the construction site.

C. The Contractor shall do all work necessary to protect the public from hazards, including, but not limited to, surface irregularities, or unramped grade changes on pedestrian walkways and docks. Barricades, lights, and proper signs shall be furnished in sufficient amount to safeguard the public and the work.

D. The performance of all work shall be in accordance with the applicable governing safety authorities.

1.14 ACCIDENT REPORTS

A. If death or serious injuries or serious damages are caused; the Contractor must promptly report by telephone or messenger to the ENGINEER. In addition, the Contractor must promptly report in writing to the ENGINEER all accidents whatsoever arising out of or in connection with, the performance of the work whether on, or adjacent, to the site, giving full details and statements of witnesses.

B. If a claim is made against the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the ENGINEER, giving full details of the claim.

1.15 FIRE PREVENTION AND PROTECTION

A. The Contractor shall perform all work in a fire-safe manner and shall supply and maintain on the site adequate fire-fighting equipment capable of extinguishing incipient fires. The Contractor shall comply with applicable federal, state, and local fire-prevention regulations. Where these regulations do not apply, applicable parts of the National Fire Prevention Standard for Safeguarding Building Construction Operations (NFPA No. 241) shall be followed.

1.16 SITE RESTORATION AND CLEANUP:

A. At all times during the work keep the premises clean and orderly and upon completion of daily work repair all damage caused by equipment and leave the project free of rubbish or excess materials of any kind.

B. Stockpile excavated materials in a manner that will cause the least damage to adjacent lawns, grassed areas, gardens, shrubbery, or fences regardless of whether these are on private property, or State, County, or City rights-of-way. Remove all excavated materials from grassed and planted areas, and leave these surfaces in a condition equivalent to their original condition.

1.17 FINISHING OF SITE AND STORAGE AREAS

A. Upon completion of the project, all areas used by the Contractor shall be properly cleared of all temporary structures, rubbish and waste materials and properly graded to drain and blend in with the abutting property. Areas used for the deposit of waste materials shall be finished to properly drain and blend in with the surrounding terrain.

1.18 AREA CLEANUP DURING CONSTRUCTION

A. Thoroughly clean all spilled dirt, gravel, sand or other foreign materials caused by the construction operations from all streets and roads, grass, pathways, docks or concrete walkways and from adjacent areas at the conclusion of each day's operation. Truck or equipment wash down is not to be performed on City Property.

1.19 PREVENTION

A. Applicable environmental regulations shall be strictly adhered to.

1.20 SUBMITTALS

A. See Submittals section of the specifications

1.21 PAYMENT

A. The cost of the work in this section is considered incidental to the contract.

END OF SECTION

SECTION 01010
SCOPE OF WORK

1.1 DESCRIPTION

The project contemplated consists of providing all materials, equipment and labor necessary to complete the project as described in these documents including all site work and necessary appurtenances, record drawings, and incidental work to provide a complete and serviceable project identified as:

B. **ITB 18-038 Wickers Field Athletic TrailerS**

C. Related requirements in other parts of the Contract Documents: Include but not limited to:

1. General and Supplementary Conditions of the Contract for Construction.

1.2 CONTRACTOR'S DUTIES:

A. In addition to provisions stipulated in other portions of the Contract Documents, the Contractor shall:

1. Secure permits (including payment of all associated fees) as necessary for proper execution and completion of the work. All conditions of the permit must be adhered to by the contractor.

2. Notify (in writing) all vendors, residents and proprietors adjacent to construction site of work to be performed, more specifically the notice shall state the day and time construction will begin, hours of work, the name and phone number of the Contractor’s Superintendent and an end date for the project.

B. The Contractor shall be totally responsible for securingand complying with all, required permits and payment of associated fees. Contractor shall ensure that construction complies with all applicable local, state, and federal codes.

C. Provide an experienced, qualified, and competent Superintendent able to read, write and speak English to oversee the work and perform quality assurance inspections. Prior to starting construction, the proposed Superintendent's qualifications shall be submitted in writing to the City for approval. The approved Superintendent shall be expected to remain for the duration of the Project, unless the City or ENGINEER deem him/her inadequate and requests his/her removal or the Contractor cannot continue his services to the Project for a reason or reasons that shall be communicated in writing to the City.

D. The Superintendent shall provide to the City, upon request, Construction Reports for each day of construction, the reports shall be in English, legible, and signed. Contractor shall provide PDF copies monthly. Reports shall include quantity control checks.

E. It shall be the Contractor's responsibility to comply with the City’s Noise Ordinance

Chapter 26 Environment, Article IV. Sound Control below:

Sec. 26-193. - Exceptions.

The prohibitions contained in this article shall not apply to the following:

(3) Construction/demolition. Sound levels produced from tools and equipment in commercial construction, demolition, drilling, or reasonably similar activities. However, such sound levels are limited to the hours of 8:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 5:00 p.m. on Saturday. The tools and equipment must be muffled and maintained equal to the functional standards of the industry. No exceptions contained in this subsection shall apply on Thanksgiving Day, Christmas Day and New Year's Day.

F. The Contractors is responsible for the installation of all associated items used in the completion of the project. Contractor is responsible for all costs associated with the disposal of materials and must dispose of in an environmentally responsible manner.

G. The Contractor shall provide material safety data sheets (2 copies) for chemicals, paints, coatings and materials used on-site prior to initiation of work.

1.3 CONTRACTOR'S USE OF PREMISES

A. Work shall be scheduled as to not interfere with on-going area activities.

B. Coordinate use of premises and requirements for security under direction of City.

C. Assume full responsibility for the protection and safekeeping of products, under this Contract, stored on the site.

D. Obtain and pay for the use of additional storage or work areas needed for operation.

1.4 MAINTENANCE OF EXISTING UTILITIES OPERATION

A. Provide at least three weeks’ notice prior to interruption of utility services for temporary or permanent connections.

B. Keep interruption of utility services, and utility outages during disconnection, moving, and reconnection to a minimum.

C. Keys Energy shall be notified two weeks in advance in writing by the contractor for any KEYS support equipment required by the Contractor during construction. No additional payment will be paid for this coordination.

END OF SECTION

SECTION 01300
SUBMITTALS

PART 1 - GENERAL

1.1 GENERAL

A. Inquiries: Direct to ENGINEER regarding procedure, purpose, or extent of Submittal.

B. Submittal Submission Procedures: As provided in General Conditions, as specified herein, and as may otherwise be established during the preconstruction conference.

C. OWNER's Authorization: At any time, OWNER may authorize changes to procedures and requirements for Submittals, as necessary to accomplish specific purpose of each Submittal. Such authorization will be by Field Order or Work Change Directive.

D. Timeliness: Make submissions in accordance with requirements of individual Specification sections, as shown on the current accepted schedule of Submittals submissions, and in such sequence as to cause no delay in Work or in work of other contractors.

E. Identification of Submittals:

1. Complete, sign, and transmit with each Submittal package, one Transmittal of CONTRACTOR's Submittal Form.
2. Identify each Submittal with numbering and tracking system reviewed by ENGINEER:
   a. Sequentially number each Submittal.
   b. Resubmission of a Submittal will have original number with sequential alphabetic suffix.
3. Show date of submission and dates of previous submissions.
4. Show Project title and OWNER's contract identification and contract number.
5. Show names of CONTRACTOR, Subcontractor or Supplier, and manufacturer as appropriate.
6. Identify, as applicable, Contract Document section and paragraph to which Submittal applies.
7. Clearly identify revisions from previous submissions.

F. Incomplete Submittal Submissions:

1. At ENGINEER's sole discretion, ENGINEER will either (i) return the entire Submittal for CONTRACTOR's revision/correction and resubmission, or (ii) retain portions of the Submittal and request submission/resubmission of specified items or as noted thereon.

2. Submittals which do not clearly bear CONTRACTOR's specific written indication of CONTRACTOR review and approval of Submittal or which are transmitted with an unsigned or uncertified submission form or as may otherwise be required under Contract Documents, will be returned to CONTRACTOR unreviewed for resubmission in accordance with Contract Documents.

3. Delays, re-sequencing or other impact to Work resulting from the CONTRACTOR’s submission of unchecked or unreviewed, incomplete, inaccurate or erroneous, or nonconforming Submittals, which will require CONTRACTOR's resubmission of a Submittal for ENGINEER's review, shall not constitute a basis of claim for adjustment in Contract Price or Contract Times.

G. Non-specified Submissions: Submissions not required under these Contract Documents and not shown on schedule of Submittals submissions will not be reviewed and will be returned to CONTRACTOR.

H. Transmit submittals in accordance with current accepted schedule of Submittal submissions, and deliver the ENGINEER designated by the ENGINEERING Department of the City of Key West.

I. Disposition of Submittals: As specified herein for administrative Submittals. ENGINEER will review, stamp, and indicate requirements for resubmission or acceptance on Submittal as follows:

1. No Exceptions Taken.

2. Reviewed as Noted:
   a. Reference the General Conditions for intent.
   b. CONTRACTOR may proceed to perform Submittal related Work.
   c. One copy for ENGINEER’s file.
   d. One copy returned to CONTRACTOR.

3. Revise and Resubmit (Revise/Correct or Develop Replacement and Resubmit):
   a. Revise/correct in accordance with ENGINEER's comments and resubmit.
   b. One copy to ENGINEER's file.
   c. One copy returned to CONTRACTOR appropriately annotated.

J. Payment for the work in this section will be incidental to the contract.

END OF SECTION

PART 5

SITE WORK DRAWINGS

CITY OF KEY WEST - WICKER'S FIELD ATHLETIC TRAILERS

1435 KENNEDY DRIVE; KEY WEST, FL 33040

PROJECT DESCRIPTION

REVIEW SET

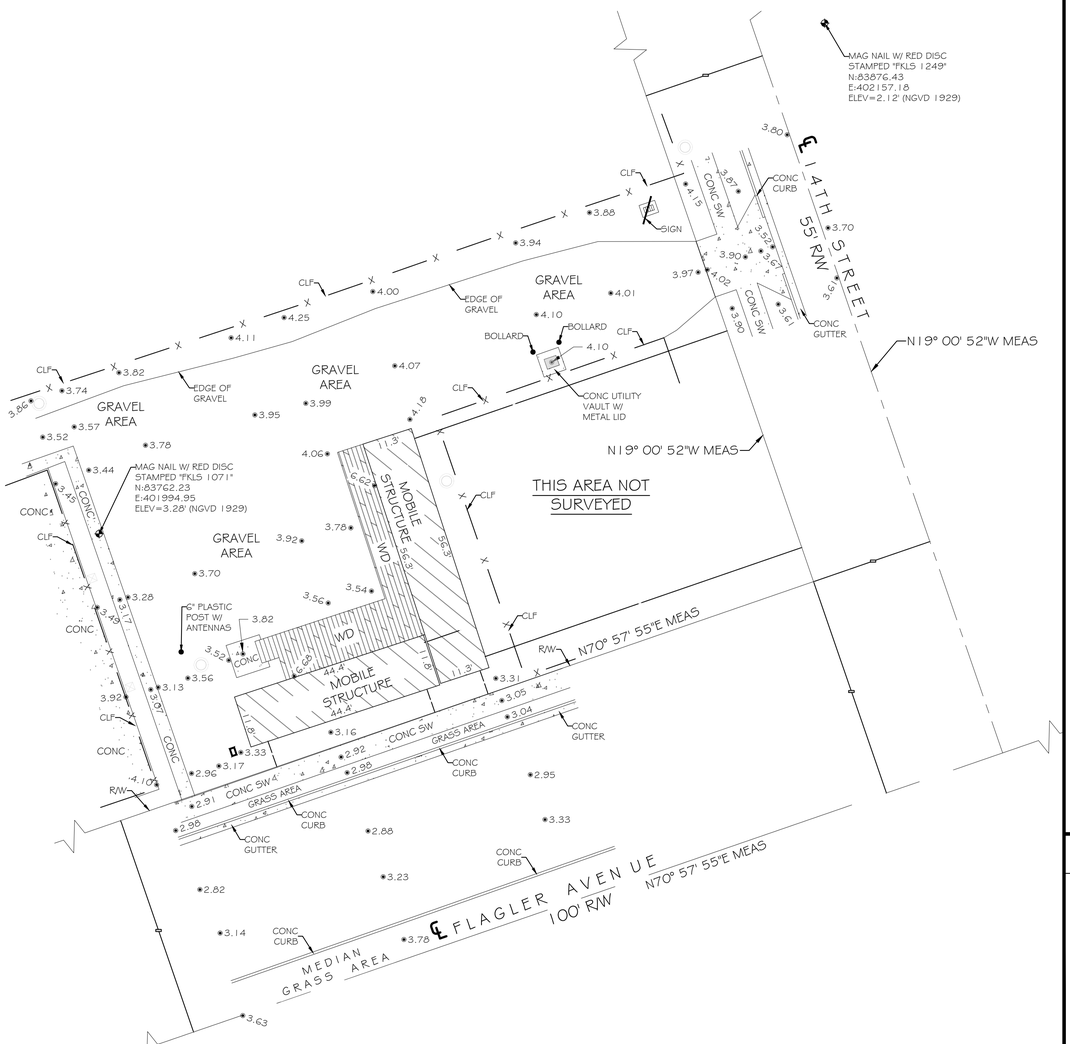
SYMBOLS

- WINDOW NUMBER
- WALL TYPES
- DOOR NUMBER
- REVISION NUMBER
- ROOM/SPACE NUMBER (ROOM NAME, #, S.F.)
- PLUS OR MINUS LAST INDICATED UNIT
- CENTER LINE
- DIAMETER OR ROUND
- ANGLE
- CHANNEL
- COLUMN LINE
- EXTERIOR ELEVATION NO. / DWG. REF. NO.
- WALL SECTION NO. / DWG. REF. NO.
- DETAIL NO. / DWG. REF. NO.
- INTERIOR ELEVATION NO. / DWG. REF. NO.

LOCATION MAP

PROJECT LOCATION ★

SITE PLAN



CODE INFORMATION

APPLICABLE CODES
ALL WORK SHALL BE IN CONFORMANCE, BUT NOT LIMITED TO THE REQUIREMENTS OF THE FOLLOWING AND ANY OTHER STATE OR LOCAL CODES HAVING JURISDICTION.

FLORIDA BUILDING CODE 2017 6TH EDITION

NFPA NATIONAL ELECTRIC CODE 2017

CITY OF KEY WEST CODES AND ORDINANCES

CONTRACTOR GENERAL NOTES:
- ALL WORK TO BE IN ACCORDANCE WITH APPLICABLE CODES.
- WORKMANSHIP TO MEET OR EXCEED ACCEPTED STANDARDS OF RESPECTIVE TRADES.
- VERIFY ALL DIMENSIONS, ELEVATIONS, AND FIELD CONDITIONS BEFORE START OF CONSTRUCTION. NOTIFY ARCHITECT IF ANY CONFLICTS EXIST PRIOR TO COMMENCEMENT OF WORK.

FIRE EXTINGUISHERS WILL BE PROVIDED AS REQUIRED BY AUTHORITY HAVING JURISDICTION OR AS DIRECTED BY THE LOCAL FIRE DEPARTMENT.

WALL R-VALUE = 19
ROOF R-VALUE – 29.

SCOPE OF WORK

(3) NEW IMPACT RATED TRAILERS ON CONC. COLUMNS WITH AUGER PILE FOUNDATION. NEW WOOD DECK WITH WOOD STAIR AND ADA LIFT

DRAWING INDEX

ISSUED FOR:			
		GENERAL	
	●	G0.0.1	COVER SHEET
		ARCHITECTURAL	
	●	A1.1.1	ARCHITECTURAL SITE PLAN
	●	A2.1.1	FIRST FLOOR PLAN
		STRUCTURAL	
	●	S0.1.1	GENERAL NOTES
	●	S2.1.0	FOUNDATION PLAN
	●	S5.1.1	FOUNDATION & STRUCTURAL DETAILS
	●	S7.1.1	ENLARGED STAIR PLANS & DETAILS
		MECHANICAL	
	●	M0.1.1	MECHANICAL NOTES AND SPECIFICATIONS
		PLUMBING	
	●	P0.1.1	PLUMBING NOTES AND SPECIFICATIONS
	●	P2.1.1	GROUND FLOOR PLUMBING PLAN
		ELECTRICAL	
	●	E0.1.1	ELECTRICAL NOTES AND DETAILS

SHEET NUMBERING SYSTEM

DISCIPLINE:
SERIES NUMBER
SUB-SERIES NUMBER
NUMBER OF DRAWING WITH IN SUB-SERIES

A2.1.1

DESIGN TEAM INFORMATION

ENGINEER
K2M Design, Inc.
Steve Grasley
1150 Virginia Street
Key West, FL 33040
tel: 216.357.2794

MECH/ELEC/PLUMBING ENGINEER:

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Seal:

STEVEN S. GRASLEY · LICENSE · No. 73110 · STATE OF FLORIDA · PROFESSIONAL ENGINEER
LIC. NO. 73110
COA: 30945

Consultants:

Submissions:

DATE: PHASE
2018.04.19 - ISSUED PERMIT SET

CITY OF KEY WEST - WICKER'S FIELD ATHLETIC TRAILERS
1435 KENNEDY DRIVE; KEY WEST, FL 33040

PLOTTED: 4/18/2018 4:36 PM

Drawing Size	Project #:
24x36	18038
Drawn By: NC	Checked By: AA

Title: COVER SHEET

Sheet Number: G0.0.1

Date: 04/19/2018

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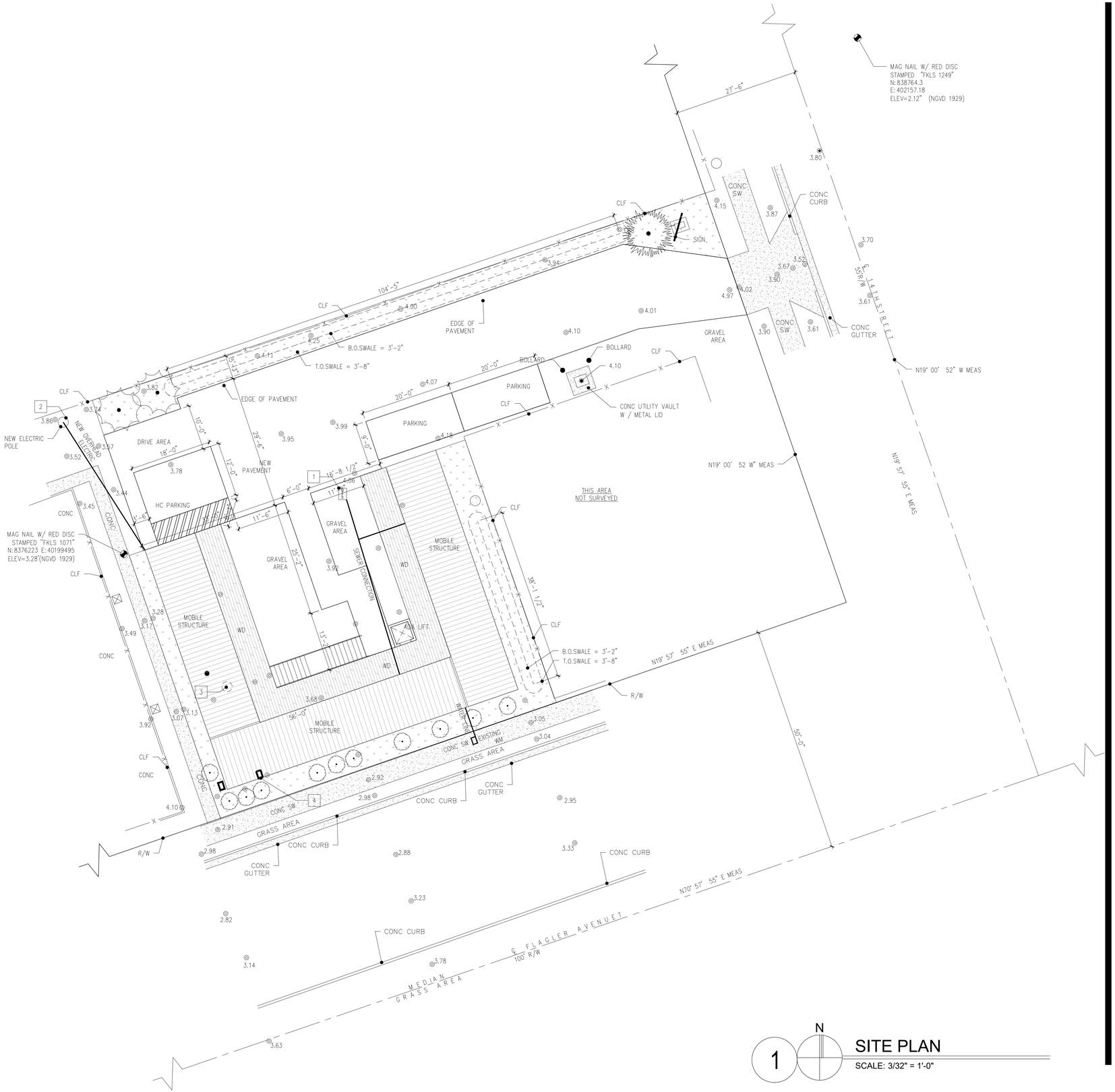

1 SITE PLAN

SCALE: 3/32" = 1'-0"

SITE NOTES

ZONING: PS–PUBLIC SERVICE
MBH=25'
40% MAX LOT COVERAGE
20% REQUIRED OPEN SPACE
FLOOD ZONE:AE8

PARKING PROVIDED THROUGHOUT THE SITE. ALL PARKING ON THIS SITE PLAN IS SUPPLEMENTAL.

(1) HANDICAP PARKING SPACE
(1) STANDARD PARKING SPACE
(2) PARALLEL PARKING SPACES

EQUIPMENT PARKING IS LOCATED BELOW TRAILERS (FENCING TBD BY CITY))

PARKING TO BE LINED. WHEEL STOPS TO BE PROVIDED (NOT @ PARELLEL SPOT

NO PROPOSED CURB CUT MODIFICATIONS.

CODED NOTES

X

1 SEWER(EXISTING)

2 POWER POLE (EXIXTING)

3 DEMO POLE

4 RELOCATE MAIL BOX

TYPICAL SWALE

SWALE DESIGN
TYPICAL 4'–0"
W/ A 6" AVERAGE DEPTH

STORMWATER RETENTION

EXISTING LOT COVERAGE
TRAILERS/DECK/STEPS – 1,779 SF
PROPOSED LOT COVERAGE
TRAILERS/DECK/STEPS – 2,686 SF
PAVEMENT/(4) VEHICLES SPACES/PATHS – 3,784 SF
PROPOSED – EXISTING LOT COVERAGE = 4,691 SF

A) ONE INCH OF RUNOFF FROM PROJECT AREA = 391 CF
50% CREDIT FOR SWALE TREATMENT VOLUME = 195.5 CF

SWALE DIMENSIONS = 4FT WIDE BY 6" DEEP (EXCAVATE EXTRA 6" FOR PLANT MATERIALS)
VOLUME = AREA X LENGTH
SWALE VOLUME – 1CF PER LF
SWALE LENGTH REQUIRED = 195.5 LF

SWALE LENGTH PROVIDED = 136 LF
SWALE A (38' – 1 1/2")
SWALE B (104'–5")

SWALE PLANTINGS

SWALE A – GRASS

SWALE B – GRASS

NOTE: GRASS SPECIES TO MATCH EXISTING ON SITE – CITY TO VERIFY

GRASS

BUCCANEER PALM – 1 NEW

PIGEON PLUM – 2 NEW

JAMAICA CAPER – 11 EXISTING

0 8 16 32
GRAPHIC SCALE: 3/32" = 1'–0"

ARCHITECT:

K2M DESIGN
Architecture, Engineering, Interior Design, Asset Management, Specialty Consulting

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CITY OF KEY WEST - WICKER'S FIELD ATHLETIC TRAILERS

1435 KENNEDY DRIVE;
KEY WEST, FL 33040

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Drawing Size	Project #:
24x36	18038
Drawn By:	Checked By:
NC	AA

Title:
ARCHITECTURAL SITE PLAN

Sheet Number:
A1.1.1

Date: 04/19/2018

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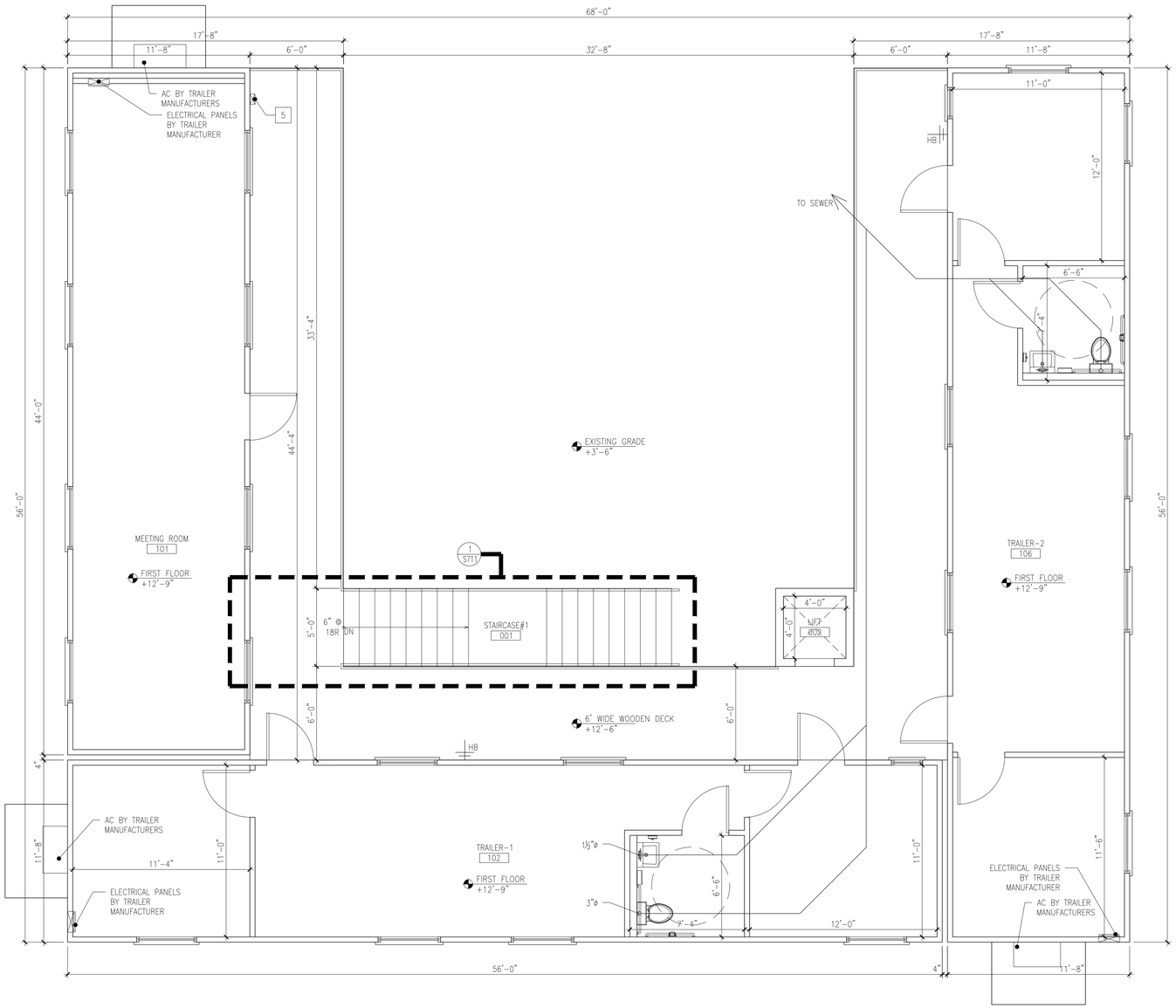

1 FIRST FLOOR PLAN

SCALE: 1/4"=1'-0"

GENERAL NOTES

1. EXISTING SEWER TO REMAIN
2. CONNECT SANITARY TO FIXTURE PROVIDE BY MANUFACTURE.
3. (2) NEW HOSE BIBBS
4. DRINKING FOUNTAIN TBD BY CLIENT

CODED NOTES

X

1. NEW TRAILER
2. NEW LIFT
3. NEW WOOD FRAME STAIRS
4. NEW WOOD DECK
5. NEW ELECTRICAL METER LOCATED ABOVE FLOOD

PLAN LEGEND:

- EXISTING ITEMS TO REMAIN
- NEW PARTIAL HEIGHT WALL. REFER TO WALL TYPES
- NEW GYP. BD. WALL. REFER TO WALL TYPES
- ? REFER TO WALL TYPES ON A9.1.1
- EFR EXISTING DOOR TO REMAIN
- 101 NEW DOOR. REFER TO DOOR SCHEDULE

NOTE: DIMENSIONS ARE FROM FACE OF FINISHED WALL TO FACE OF FINISHED WALL UNLESS OTHERWISE NOTED

0 4 8 12
GRAPHIC SCALE: 1/4" = 1'-0"

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DATE: PHASE
2018.04.19 - ISSUED PERMIT SET

CITY OF KEY WEST - WICKER'S FIELD ATHLETIC TRAILERS

1435 KENNEDY DRIVE;
KEY WEST, FL 33040

PLOTTED: 4/18/2018 4:37 PM

Drawing Size	Project #:
24x36	18038
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NC	AA

Title:

FIRST FLOOR PLAN

Sheet Number:

A2.1.1

Date: 04/19/2018

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ELECTRICAL SPECIFICATIONS

DIVISION 26 - ELECTRICAL

I. GENERAL PROVISIONS

A. GENERAL CONDITIONS, CODES & STANDARDS

1. GENERAL CONDITIONS OF THE CONTRACT FOUND IN THE ARCHITECTURAL DRAWINGS, GENERAL AND SPECIAL CONDITIONS OF THE AMERICAN INSTITUTE OF ARCHITECTS (AIA) AND ANY OF THE OWNER'S GENERAL REQUIREMENTS SHALL APPLY UNLESS NOTED OTHERWISE.
2. REFER TO THE GENERAL CONDITIONS ON THE ARCHITECTURAL DOCUMENTS AND THE GENERAL AND SPECIAL CONDITIONS OF THE AIA FOR ADDITIONAL REQUIREMENTS REGARDING; SAFETY, COORDINATION & COOPERATION, WORKMANSHIP, PROTECTION, CUTTING AND PATCHING, DAMAGE TO OTHER WORK, PRELIMINARY OPERATIONS, STORAGE, ADJUSTMENTS, CLEANING, ETC.
3. ALL WORK SHALL BE IN CONFORMANCE WITH ALL LOCALLY ENFORCED, FEDERAL, STATE, AND LOCAL CODES AND ORDINANCES INCLUDING ANY SPECIAL THE OWNER REQUIREMENTS IN ADDITION TO THOSE SPECIFIED. NFPA 70 (NEC) SHALL BE THE MINIMUM STANDARD OF CODE COMPLIANCE.
4. CONTRACTOR SHALL PAY FOR AND OBTAIN ALL NECESSARY LICENSES, PERMITS AND INSPECTIONS REQUIRED TO PROCEED WITH THE WORK. THIS SHALL INCLUDE ALL REQUIRED COORDINATION WITH THE LOCAL UTILITY COMPANIES AND THEIR ASSOCIATED FEES OR COSTS.

B. SCOPE OF WORK

1. THIS CONTRACT SHALL INCLUDE THE FURNISHING, INSTALLING, CONNECTING, AND OPERATION OF ALL EQUIPMENT WHICH IS A PART OF THE ELECTRICAL SYSTEMS AS SHOWN ON THE DRAWINGS AND AS REQUIRED BY SIMILAR INSTALLATIONS. ANY MATERIAL OR LABOR WHICH IS NEITHER SHOWN ON THE DRAWINGS NOR CALLED FOR IN THE SPECIFICATIONS, BUT WHICH IS OBVIOUSLY NECESSARY TO COMPLETE THE WORK AND WHICH IS USUALLY INCLUDED IN WORK OF A SIMILAR CHARACTER SHALL BE FURNISHED AND INSTALLED UNDER THIS CONTRACT AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS REQUIRED TO PROVIDE THE OWNER A COMPLETE, CODE APPROVED AND OPERATIONAL ELECTRICAL SYSTEM.
2. CAREFULLY READ SPECIFICATION FOR ALL PARTS OF THE WORK SO AS TO BECOME FAMILIAR WITH ALL TRADES' WORK SCOPE. CONSULT WITH OTHER TRADES TO INSURE PROPER LOCATIONS AND AVOID INTERFERENCES. ANY CONFLICT SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER BEFORE WORK IS COMMENCED.
3. CONTRACTORS SHALL BE HELD TO HAVE EXAMINED THE PREMISES AND SITE SO AS TO COMPARE THEM WITH THE DRAWINGS AND SPECIFICATIONS, NOTE THE EXISTING CONDITIONS AND OTHER WORK THAT WILL BE REQUIRED, AND THE NATURE OF THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. NO ALLOWANCE SHALL BE MADE TO THE CONTRACTOR BY REASON OF THIS FAILURE TO HAVE MADE SUCH EXAMINATION OR OF ANY ERROR ON HIS PART.
4. ALL EXISTING UTILITY AND ELECTRICAL SERVICES SHALL BE FIELD VERIFIED. CORRECTIONS TO THE DESIGN AND INSTALLATION SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.
5. PROVIDE ALL CUTTING AND PATCHING REQUIRED FOR INSTALLATION OF ELECTRICAL WORK. ALL CORE DRILLING OR CUTTING OF FIRE RATED FLOORS, SHAFTS, AND WALLS SHALL BE FIRESTOPPED PRIOR TO FINISH PATCHING. ALL PENETRATIONS SHALL BE FIRE SEALED TO MATCH THE FIRE RATING OF THE FLOORS, SHAFTS, AND WALLS PENETRATED.
6. TEMPORARY ELECTRICAL SERVICE, LIGHTING, AND RELATED WIRING SHALL BE PROVIDED TO OSHA REQUIREMENTS FOR THE USE OF ALL TRADES DURING CONSTRUCTION.
7. TEMPERATURE AND INTERLOCK CONTROL COMPONENTS AND ALL RELATED WIRING AND CONDUIT SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
8. THIS CONTRACT SHALL ALSO INCLUDE ALL LABOR, MATERIALS AND MISCELLANEOUS EXPENSES REQUIRED FOR ALL REQUIRED ELECTRICAL DEMOLITION OF THE EXISTING AREAS BEING RENOVATED.
   a. THE DEMOLITION SHALL CONSIST OF THE COMPLETE REMOVAL (PROPERLY DISPOSED OFF SITE UNLESS OTHERWISE NOTED) OF ALL ELECTRICAL EQUIPMENT, WIRING, CONDUIT, MATERIALS, ETC. NOT REQUIRED IN THE FINAL DESIGN AND INSTALLATION OF THE ELECTRICAL SYSTEMS FOR THE NEW RENOVATED AREAS.
   b. ALL UNDERGROUND SERVICES NOT BEING REUSED SHALL BE CAPPED BELOW THE FLOOR, WIRING REMOVED, AND FLOOR PENETRATIONS REPAIRED TO MATCH ADJACENT SURFACES.
   c. ALL ABOVE GROUND CIRCUITS SHALL BE REMOVED BACK TO THE SOURCE UNLESS INDICATED OTHERWISE.
   d. COORDINATE ALL DEMOLITION WITH THE ARCHITECTURAL DOCUMENTS, THE ARCHITECT, AND THE OWNER'S GENERAL REQUIREMENTS.
9. THE GENERAL CONTRACTOR SHALL VERIFY SITE LIGHTING BASE DETAILS WITH STRUCTURAL ENGINEER TO VERIFY APPLICABILITY OF POLE/FIXTURE BASE WITH LOCAL SOIL CONDITIONS.
10. ALL WORK INCLUDING, BUT NOT LIMITED TO PARTS, MATERIAL, EQUIPMENT AND LABOR SHALL BE GUARANTEED FOR ONE YEAR AFTER ACCEPTANCE BY THE ENGINEER AND OWNER. WHERE AN EQUIPMENT MANUFACTURER HAS A WARRANTY THAT EXCEEDS ONE YEAR, THAT WARRANTY PERIOD SHALL APPLY TO THIS PROJECT.

C. DOCUMENTS

1. THE DRAWINGS ARE DIAGRAMMATIC; ALL WORK SHALL BE PERFORMED AS INDICATED ON THE DRAWINGS UNLESS EXISTING CONDITIONS OR COORDINATION ISSUES REQUIRE CHANGES. THESE CHANGES SHALL BE MADE WITH NO ADDITIONAL COST TO THE OWNER.
2. ANY INCIDENTAL ITEMS OR LABOR, ETC. NOT INCLUDED IN THE SPECIFICATIONS OR THE DRAWINGS BUT REASONABLY IMPLIED AS NECESSARY FOR THE COMPLETE INSTALLATION OF ALL APPARATUS SHALL BE INCLUDING IN BID.
3. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER AND ANY MATERIAL OR LABOR CALLED FOR IN ONE SHALL BE FURNISHED EVEN THOUGH NOT MENTIONED IN BOTH.
4. IF ERRORS ARE FOUND IN THE DRAWINGS OR SPECIFICATIONS OR DISCREPANCIES OCCUR BETWEEN THE SAME, OR BETWEEN THE FIGURES ON THE DRAWINGS, AND THE SCALE OF SAME OR BETWEEN THE LARGER AND SMALLER DRAWINGS, OR IN THE DESCRIPTIVE MATTER ON THE DRAWINGS SHALL BE REFERRED TO THE OWNER FOR REVIEW AND FINAL DECISION PRIOR TO THE BID DUE DATE.
5. THE BIDDING OF THIS WORK WILL CONTEMPLATE THE USE OF EQUIPMENT AND MATERIALS EXACTLY AS SPECIFIED HEREIN. WHERE MORE THAN ONE MANUFACTURER IS MENTIONED ANY ONE MAY BE UTILIZED. SUBSTITUTE MANUFACTURERS MAY BE OFFERED ONLY AS AN ALTERNATE TO THE SPECIFIED EQUIPMENT AND MATERIAL AND MUST BE SUBMITTED AS SPECIFIED IN THE ARCHITECTURAL DOCUMENTS.
6. MISCELLANEOUS ITEMS NECESSARY TO COMPLETE THE SYSTEMS CAN BE OF ANY RECOGNIZED MANUFACTURE PROVIDED THESE ITEMS MEET MINIMUM STANDARDS AS SET IN THESE SPECIFICATIONS. REFER TO EACH SECTION FOR ANY SPECIFIC REQUIREMENTS.

D. COORDINATION

1. CONTRACTOR SHALL LOCATE, IDENTIFY AND PROTECT ANY EXISTING SERVICES WHICH ARE REQUIRED TO BE MAINTAINED OPERATIONAL AND SHALL EXERCISE EXTRA CAUTION IN THE PERFORMANCE OF ALL WORK TO AVOID DISTURBING SUCH FACILITIES. ALL COSTS FOR REPAIR OF DAMAGES TO SUCH SERVICES SHALL BE PAID BY THE CONTRACTOR CAUSING THE DAMAGE.
2. EACH CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL DAMAGE TO OTHER WORK CAUSED BY HIS WORK OR THROUGH THE NEGLECT OF HIS, OR HIS SUB-TRADE'S PERSONNEL. ALL PATCHING, REPAIRING, REPLACEMENT AND PAINTING, ETC. SHALL BE DONE AS DIRECTED BY THE OWNER BY THE CRAFTSMEN OF THE TRADES INVOLVED. THE COSTS OF SUCH WORK SHALL BE PAID BY THE CONTRACTOR CAUSING THE DAMAGE.
3. IT IS ESSENTIAL THAT ALL WORK AT THE PROJECT BE DONE AT SUCH TIME AND IN SUCH MANNER AS NOT TO INTERFERE WITH THE OPERATIONS OF THE SPACE, ADJACENT SPACES, OR FACILITY. A WORK SCHEDULE SHALL BE ARRANGED WITH THE OWNER, INCLUDING PREMIUM TIME WORK TO FACILITATE WORK WITH A MINIMUM OF INTERFERENCE TO THE OWNER'S OPERATIONS.

E. METHODS

1. EXCAVATIONS SHALL BE MADE IN OPEN TRENCHES. FLOORS SHALL BE SAW CUT. CONDUIT SHALL BE LAID ON AN APPROPRIATELY GRADED 6" BED OF CLEAN AND DRY SAND. ENGINEERED FILL SHALL BE USED TO BACKFILL TO 6" ABOVE THE CONDUIT. BACKFILL THE REMAINDER OF THE TRENCH UTILIZING THE EXCAVATED MATERIAL IF APPROVED BY THE ARCHITECT OR THE OWNER. IF THE EXCAVATED MATERIALS ARE NOT ACCEPTABLE, ENGINEERED FILL ACCEPTABLE TO THE ARCHITECT SHALL BE UTILIZED TO BACKFILL THE REMAINDER OF THE TRENCH. BACKFILL SHALL BE ACCOMPLISHED IN 9" LIFTS WITH ALL LIFTS COMPACTED TO 95% PROCTOR. PATCH FLOOR TO MATCH EXISTING.
2. EQUIPMENT, CONDUIT, ETC. SHALL NOT BE SUPPORTED FROM ANY CEILINGS, OTHER PIPING, OTHER CONDUIT OR DUCTWORK, ROOF DECK, OR JOIST BRIDGING. ITEMS SHALL BE SUPPORTED FROM ACCEPTABLE STRUCTURAL BUILDING COMPONENTS AS DETERMINED BY THE ARCHITECT AND STRUCTURAL ENGINEER.
3. ALL ROOF PENETRATIONS, FLASHINGS AND COUNTER FLASHINGS SHALL BE PERFORMED BY THE OWNER'S ROOFING CONTRACTOR AT THE REQUESTING CONTRACTORS COST.

F. SUBMITTALS

1. SHOP DRAWINGS SHALL BE PROVIDED TO THE ARCHITECT OF ALL EQUIPMENT AND ACCESSORIES PROVIDED FOR THE PROJECT WHETHER SPECIFIED HERE-IN OR ON THE DRAWINGS. REVIEW OF THE SHOP DRAWINGS SHALL BE FOR GENERAL DESIGN CONCEPT AND ADHERENCE WITH THE SPECIFICATIONS. QUANTITY OF SHOP DRAWINGS SUBMITTED SHALL BE AS SPECIFIED BY THE ARCHITECT. SHOP DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR SHOWING LOCATIONS AND MEASUREMENTS FROM COLUMNS OF ALL CONCEALED AND EXPOSED PIPING, DUCTWORK, CONDUIT, EQUIPMENT, ACCESSORIES, ETC., AND SUBMITTED PRIOR TO INSTALLATION. THE OWNER MAY MAKE REPRODUCIBLE COPIES OF THEIR DRAWINGS AVAILABLE FOR USE IN PREPARATION OF SHOP DRAWINGS, HOWEVER THE OWNER SHALL NOT BE HELD RESPONSIBLE FOR NOT CONFIRMING ALL INFORMATION ON THE DRAWINGS PRIOR TO FABRICATION AND/OR INSTALLATION.
2. PROJECT RECORD DOCUMENTS - MAINTAIN AT THE JOBSITE ONE COPY OF ALL CONTRACT DOCUMENTS CLEARLY MARKED AS "PROJECT RECORD COPY". THESE DRAWINGS ARE TO BE MAINTAINED IN GOOD CONDITION, UPDATED DAILY FOR CHANGES ENCOUNTERED AND AVAILABLE AT ALL TIMES FOR INSPECTION BY THE OWNER. DO NOT USE FOR FIELD CONSTRUCTION! PROJECT RECORD DOCUMENTS ARE TO BE KEPT CURRENT WITH EXACT DIMENSIONS OF ALL WORK, EQUIPMENT, DISTRIBUTION CONDUIT, CIRCUITS, ETC. MARK ALL INFORMATION IN RED LINES AND NOTES SO AS TO BE EASILY IDENTIFIED FROM THE BASE DRAWING. UPON COMPLETION OF THE WORK, ONE SET OF THESE DOCUMENTS SHALL BE TURNED OVER TO THE OWNER AS ONE QUALIFICATION FOR FINAL PAYMENT.
3. THREE COMPLETE SETS OF AS-BUILT DOCUMENTATION SHALL BE PROVIDED. IT SHALL INCLUDE, BUT NOT BE LIMITED TO ACCURATE PLAN DRAWINGS, WIRING DIAGRAMS AND OPERATION AND MAINTENANCE MANUALS.

II. PRODUCTS

A. CONDUIT

1. CONDUIT SHALL BE HEAVY WALL RIGID GALVANIZED STEEL WHERE EXPOSED AND SUBJECT TO DAMAGE, 8'-0" AFF AND BELOW, AND IN WET LOCATIONS WHERE INDICATED ON THE DRAWINGS. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC AND SHALL BE CONCRETE ENCASED (3' MINIMUM) WHERE INDICATED ON THE DRAWINGS. A TRANSITION SHALL BE MADE TO HEAVY WALL RIGID GALVANIZED STEEL BEFORE PVC CONDUITS PENETRATE THE FLOOR SLAB. INTERIOR CONDUITS SHALL BE ELECTRICAL METALLIC TUBING (EMT). METAL CLAD (MC) CABLE MAY BE USED IF APPROVED BY THE OWNER, AND INSTALLED IN LOCATIONS PERMITTED BY CODE.
2. FLEXIBLE METAL CONDUIT SHALL BE USED FROM OUTLET BOX TO INDIVIDUAL RECESSED LIGHT FIXTURES, AND FOR FINAL CONNECTIONS TO MOTORS AND OTHER DEVICES SUBJECT TO VIBRATION.

B. CONDUIT FITTINGS AND BOXES

1. INTERIOR OUTLET BOXES SHALL BE STANDARD GALVANIZED SHEET STEEL TYPE, NOT LESS THAN 14 GAUGE IN THICKNESS, WITH KNOCKOUT OPENINGS, EXTENSIONS, PLASTER RINGS AND COVER PLATES TO ACCOMMODATE THE DEVICES INSTALLED. COVER PLATES SHALL BE SMOOTH PLASTIC TO MATCH DEVICE COLOR. USE STEEL PLATES WITH ROUNDED CORNERS FOR SURFACE BOXES. OUTDOOR (WET LOCATION) OUTLET BOXES SHALL BE CAST ALUMINUM TYPE WITH DEVICE COVERS TO SUIT.
2. OUTLET BOXES SHALL NOT BE LESS THAN 4 INCHES SQUARE, 1-1/2 INCHES DEEP.
3. COUPLINGS AND CONNECTORS FOR EMT SHALL BE DIE CAST ZINC OR STEEL. BUSHING SHALL BE GROUNDING TYPE WITH INSULATING PLASTIC INSERT.

C. WIRE AND CABLE

1. CONDUCTORS FOR POWER AND LIGHTING SHALL BE NEW 600-VOLT, 90°C, TYPE XHHW, THHN, OR THWN INSULATION, MINIMUM SIZE #12-AWG, EXCEPT FOR CONTROL WIRING WHICH MAY BE #14-AWG. OTHER SIZES SHALL BE AS NOTED ON THE DRAWINGS. CONDUCTORS SHALL BE COPPER, UNLESS OTHERWISE APPROVED BY THE OWNER.
2. BRANCH CIRCUIT RUNS EXCEEDING 100 FEET IN TOTAL LENGTH FROM THE PANELBOARD TO THE LAST DEVICE, SHALL BE #10-AWG CONDUCTORS UNLESS OTHERWISE NOTED.
3. COMPRESSION TYPE LUGS AND CONNECTORS SHALL BE USED FOR ALL TERMINATIONS AND SPLICES.
4. ALL LOW VOLTAGE COMMUNICATIONS, FIRE ALARM, DATA, SECURITY, TELEPHONE AND ALL OTHER MISCELLANEOUS LOW VOLTAGE WIRING INSTALLED IN CEILING SHALL BE PLENUM RATED. USE CAT6 CABLE FOR ETHERNET COMMUNICATIONS.

D. WIRING DEVICES

1. DUPLEX RECEPTACLES SHALL BE GROUNDING TYPE, NEMA 5-20R, RATED FOR 20 AMPS, 125 VOLTS, WITH PROVISIONS FOR BACK AND SIDE WIRING.
2. GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLES SHALL BE PROVIDED WHERE INDICATED.
3. SWITCHES SHALL BE TOGGLE OPERATED, QUIET TYPE, RATED FOR 20 AMPS, 120/277 VOLTS, WITH PROVISIONS FOR BACK AND SIDE WIRING. THREE WAY AND FOUR WAY SWITCHES SHALL BE PROVIDED WHERE INDICATED.
4. DIMMERS SHALL BE LUTRON "NOVA T-STAR" SERIES, OF A RATING, VOLTAGE AND WATTAGE SUITABLE FOR LOAD SERVED.
5. COLORS OF DEVICES SHALL BE SELECTED BY ARCHITECT.
6. WIRING DEVICES SHALL BE SPECIFICATION GRADE, AS MANUFACTURED BY HUBBELL, PASS & SEYMOUR, ARROW HART, LEVITON AND GENERAL ELECTRIC.

E. LIGHTING AND RECEPTACLE PANELBOARDS

1. BRANCH CIRCUIT PANELBOARDS SHALL BE DEAD FRONT TYPE, WITH MAIN LUGS OR MAIN OVERCURRENT DEVICE AS INDICATED, BRANCH OVERCURRENT DEVICES AS NOTED AND AN EQUIPMENT GROUND BAR, ALL IN A SURFACE OR FLUSH MOUNTED SHEET STEEL ENCLOSURE. MINIMUM SHORT CIRCUIT CAPACITY SHALL BE 10,000 AMPS SYMMETRICAL FOR 120/208V, AND 18,000 AMPS SYMMETRICAL FOR 277/480V APPLICATION UNLESS NOTED OTHERWISE.
2. CIRCUIT BREAKERS SHALL BE BOLT ON TYPE; WITH MOLDED PLASTIC CASE; 1, 2, OR 3 POLE AS INDICATED; QUICK-MAKE, QUICK-BREAK; AND THERMAL-MAGNETIC TRIP DEVICE.
3. ALL BREAKERS FEEDING HVAC EQUIPMENT SHALL BE HACR RATED, UNLESS OTHERWISE NOTED.
4. ALL BREAKERS IN RESIDENTIAL OCCUPANCIES SHALL BE ARC-FAULT TYPE, UNLESS OTHERWISE NOTED.
5. PANELBOARDS SHALL BE AS MANUFACTURED BY SQUARE D, GENERAL ELECTRIC, SIEMENS, AND CUTLER HAMMER.

F. DISTRIBUTION TRANSFORMERS

1. TRANSFORMERS SHALL BE ENERGY SAVING TYPE, DRY TYPE, 115 DEGREE RISE WITH 2 TAPS ABOVE AND 4 TAPS BELOW NORMAL VOLTAGE. TRANSFORMERS SHALL BE AS MANUFACTURED BY SQUARE D, GENERAL ELECTRIC, SIEMENS, CUTLER HAMMER, AND ACME.

G. SAFETY SWITCHES AND MOTOR STARTERS

1. SAFETY SWITCHES SHALL BE FUSIBLE OR NON-FUSIBLE AS INDICATED ON THE DRAWINGS. SWITCHES SHALL BE QUICK-MAKE, QUICK-BREAK, HEAVY DUTY VISIBLE BLADE TYPE. ENCLOSURES SHALL BE NEMA 1 TYPE UNLESS OTHERWISE INDICATED ON THE DRAWINGS. FUSES SHALL BE DUAL ELEMENT - TIME DELAY TYPE.
2. MAGNETIC MOTOR STARTERS SHALL BE COMBINATION TYPE WITH THERMAL OVERLOAD, INTEGRAL FUSED SAFETY SWITCH, H-O-A SELECTOR SWITCH, CONTROL TRANSFORMER, RUNNING PILOT LIGHT, NEMA TYPE 1 ENCLOSURE, AND (2) NORMALLY OPEN AND (2) NORMALLY CLOSED AUXILIARY CONTACTS.
3. ALL MOTORS OVER 1/8 HP SHALL BE PROVIDED WITH THERMAL OVERLOAD PROTECTION. OVERLOAD PROTECTION SHALL BE PROVIDED INTEGRAL WITH THE MOTOR WINDINGS AND/OR MOTOR CONTROLLER (PROVIDED BY OTHERS) UNLESS OTHERWISE INDICATED ON DRAWINGS.

H. LUMINAIRES AND LAMPS

1. ALL LUMINAIRES SHALL BE SPECIFIED ON THE LUMINAIRE SCHEDULE.
2. BALLASTS SHALL BE INSTANT START, ELECTRONIC TYPE, CLASS P, "A" SOUND RATING AND MAXIMUM HARMONIC CONTENT OF 10%. DIMMING BALLASTS SHALL BE 3-WIRE TYPE, WITH DIMMING CAPABILITY TO 10% OF RATED FULL OUTPUT.
3. RECESSED LUMINAIRES WITH INCANDESCENT LAMPS SHALL BE PROVIDED WITH THERMAL PROTECTION.
4. FLUORESCENT LAMPS SHALL BE 3500 K UNLESS NOTED OTHERWISE. INCANDESCENT LAMPS SHALL BE 130 VOLT. HIGH INTENSITY DISCHARGE LAMPS SHALL BE COATED.
5. EMERGENCY LIGHTING AS INDICATED, SHALL PROVIDE A MINIMUM OF ONE FOOTCANDLE ALONG THE PATH OF EGRESS. EMERGENCY FIXTURE SUPPLIER SHALL PROVIDE FOOTCANDLE PRINTOUT TO VERIFY EMERGENCY LIGHT LEVELS.
6. ALL FIXTURE / BALLAST / LAMP COMBINATIONS SHALL BE ENERGY SAVING TYPE.

III. EXECUTION

A. GENERAL MISCELLANEOUS

1. ALL CONDUIT RUN IN FINISHED AREAS SHALL BE CONCEALED. CONDUIT SMALLER THAN 3/4" SHALL NOT BE USED FOR ANY CIRCUIT HOMERUNS.
2. RACEWAYS EXPOSED TO DIFFERENT TEMPERATURES SHALL BE FILLED WITH AN APPROVED MATERIAL IN ACCORDANCE WITH ARTICLE 300.7 OF THE NATIONAL ELECTRICAL CODE.
3. HANGERS, SUPPORTS, OR FASTENINGS SHALL BE PROVIDED AT EACH ELBOW, AT THE ENDS OF STRAIGHT RUNS TERMINATING AT BOXES OR CABINETS, AND AT INTERMEDIATE POINTS AS REQUIRED BY CODE. CONDUITS OR BOXES SHALL NOT BE SUPPORTED BY CEILING SUPPORT WIRES OR OTHER CEILING SUPPORTING HARDWARE.
4. FIXTURE SUPPORTS SHALL BE IN ACCORDANCE WITH ARTICLE 410-30 OF THE NATIONAL ELECTRICAL CODE, OR ANY LOCAL CODES WHICH MY APPLY.
5. PROVIDE PERMANENT NAMEPLATES WITH DESIGNATIONS FOR PANELBOARDS, FEEDER DEVICES, DISTRIBUTION EQUIPMENT AND STARTERS.
6. PROVIDE TYPEWRITTEN DIRECTORY CARDS WITH BRANCH CIRCUIT IDENTIFICATION FOR BRANCH CIRCUIT PANELBOARDS. PANELBOARDS, FEEDER DEVICES, DISTRIBUTION EQUIPMENT AND STARTERS SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS IN ACCORDANCE WITH NEC 110.16.
7. INSTALL HANDLE GUARDS ON ALL BREAKERS FOR NIGHT LIGHTING, EMERGENCY AND SIMILAR CIRCUITS.
8. THE ELECTRICAL CONTRACTOR SHALL BALANCE PANELBOARD LOADING TO WITHIN 10% ON EACH PHASE BASED ON INSTALLED CONDITIONS. LOAD BALANCING CIRCUIT CHANGES SHALL BE PERFORMED OUTSIDE THE NORMAL OCCUPANCY WORKING SCHEDULE AND AT A TIME DIRECTED BY LANDLORD.
9. ALL FLUSH MOUNTED PANELBOARDS SHALL HAVE (3) 3/4" EMPTY CONDUITS INSTALLED TO ABOVE ACCESSIBLE CEILING FOR FUTURE USE.
10. THE FINAL LOCATIONS OF ALL EQUIPMENT, OUTLETS, ETC. SHALL BE SUBJECT TO REASONABLE CHANGES IN LOCATION UP TO THE TIME OF ROUGHING-IN, AT NO ADDITIONAL COST TO THE OWNER.
11. CONTACT ELECTRIC POWER COMPANY AND MAKE NECESSARY ARRANGEMENTS FOR ELECTRIC SERVICE.
12. CONTACT TELEPHONE COMPANY AND MAKE NECESSARY ARRANGEMENTS FOR TELEPHONE SERVICE.
13. AT ALL TIMES KEEP PREMISES AND BUILDING IN A NEAT AND ORDERLY CONDITION, FOLLOWING OWNER'S INSTRUCTION IN REGARD TO STORING OF MATERIALS, PROTECTIVE MEASURES AND DISPOSING OF DEBRIS.
14. RACEWAYS BELOW DRIVEWAYS, PARKING LOTS, AND ANY RACEWAYS INSTALLED BELOW GRADE SHALL BE INSTALLED A MINIMUM OF 24" BELOW FINISHED GRADE PER NEC 300-5.

B. GROUNDING

1. GROUND ALL CONDUITS, CABINETS, MOTORS, PANELS, AND OTHER EXPOSED NON-CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH NEC ARTICLE 250.
2. BOND METAL WATER PIPING AND OTHER METAL PIPING (INCLUDING GAS PIPING) AND EXPOSED STRUCTURAL METAL IN ACCORDANCE WITH NEC ARTICLE 250.
3. GROUNDING OF THE ELECTRICAL SYSTEM SHALL BE BY MEANS OF AN INSULATED GROUNDING CONDUCTOR INSTALLED WITH ALL FEEDERS AND BRANCH CIRCUIT CONDUCTORS IN ALL CONDUITS.

NOTE:-EXISTING ELECTRICAL PANEL TO REMAIN-NO ADDITIONAL LOADING TO PANEL.ALL NEW FIXTURES ARE REPLACEMENT/RELOCATION

GENERAL NOTES

1. PROVIDE SEALS AT RACEWAY PENETRATIONS TO THE EXTERIOR. REFER TO ARCHITECTURAL DOCUMENTS FOR SEALING REQUIREMENTS AT ALL EXTERIOR MOUNTED DEVICES, FIXTURES, ENCLOSURES AND RACEWAY PENETRATIONS.
2. PROVIDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR (SIZE PER NEC) IN PVC TYPE CONDUIT, POWER CIRCUITS, ISOLATED GROUND CIRCUITS, OR AS SHOWN ON PLANS. CONDUIT SHALL BE SIZED PER NEC BASED ON THWN 600 VOLT COPPER SINGLE CONDUCTORS, PLUS THE EQUIPMENT GROUNDING CONDUCTOR.
3. WIRING DEVICES: DEVICE MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTER OF OUTLET BOX UNLESS NOTED OTHERWISE ON PLANS. COORDINATE THE STANDARD MOUNTING HEIGHTS WITH MASONRY:
   A. SWITCHES +46"
   B. RECEPTACLES +20"
   C. VOICE/DATA +20"
4. WIRING SHALL INCLUDE FINAL CONNECTION TO ALL EQUIPMENT IN CONFORMANCE WITH EQUIPMENT SUPPLIER WIRING DIAGRAMS.
5. CONTRACTOR IS RESPONSIBLE FOR PROVIDING COMPLETE PANELBOARD IDENTIFICATION SCHEDULES. SCHEDULES SHALL IDENTIFY THE USE OF LOAD SERVED FOR EACH CIRCUIT AND THE DEVICE OR EQUIPMENT THE PANEL IS FED FROM.
6. BRANCH CIRCUIT CONDUCTORS SHALL BE MINIMUM #12 AWG UNLESS NOTED OTHERWISE IN SCHEDULES. WHERE 20A BRANCH CIRCUITS HAVE #8 AND LARGER WIRE SPECIFIED, #10 AWG WIRE SHALL BE USED FOR THE FINAL CONNECTION (15-FT MAXIMUM).
7. WHERE BRANCH CIRCUITS ARE GROUPED, SIZE CONDUIT AND DERATE CURRENT CARRYING CONDUCTORS PER NEC.
8. PROVIDE HANDLE TIES ON ALL MULTIWIRE BRANCH CIRCUITS TO MEET NEC REQUIREMENTS.
9. CONDUITS EXTENDING BEYOND EXTERIOR WALL: STUB OUT 2'-0" BELOW GRADE TO 5'-0" BEYOND EXTERIOR WALLS UNLESS NOTED OTHERWISE. COORDINATE LOCATION AND PROVIDE CONNECTION TO SITE CONDUITS.
11. SUPPORTS FROM STRUCTURE: NO ATTACHMENT OF ANY TYPE SHALL BE MADE TO BRIDGING OR JOIST WEB MEMBERS. UTILIZE ONLY THE TOP AND BOTTOM CHORDS FOR SUPPORTING THE ELECTRICAL SYSTEM INSTALLATIONS.
12. ALL ATTACHMENTS TO STRUCTURE ARE TO BE MADE IN CONFORMANCE WITH LOCAL REQUIREMENTS. NO ATTACHMENT TO THE METAL DECOR OR CONCRETE SHALL BE ALLOWED.
13. PROVIDE LIQUID-TIGHT FLEXIBLE METAL CONDUIT AND WIRING FROM DISCONNECT SWITCH OR JUNCTION BOX TO EQUIPMENT KNOCKOUT OR ELECTRICAL CONNECTION POINT.
14. UPON COMPLETION OF ELECTRICAL INSTALLATION AND PRIOR TO ENERGIZING CIRCUIT, INSPECT WIRE AND CABLE FOR PHYSICAL DAMAGE, PHYSICAL DAMAGE.

GROUND WIRE SIZING CHART

BRKR AMPS		WIRE SIZE				
15-20	PHASE	12	10	8	6	4
	GROUND	12	10	8	6	4
25-30	PHASE	10	8	6	4	3
	GROUND	10	8	6	4	3
35-50	PHASE	8	6	4	3	2
	GROUND	10	8	4	4	4
60	PHASE	6	4	3	2	1
	GROUND	10	6	6	4	4
70	PHASE	6	4	3	2	1
	GROUND	8	4	4	3	2
80-90	PHASE	4	3	2	1	1/0
	GROUND	8	6	4	4	3
100	PHASE	3	2	1	1/0	2/0
	GROUND	8	6	4	4	3

PER NEC 250.122(B)

KEYNOTES

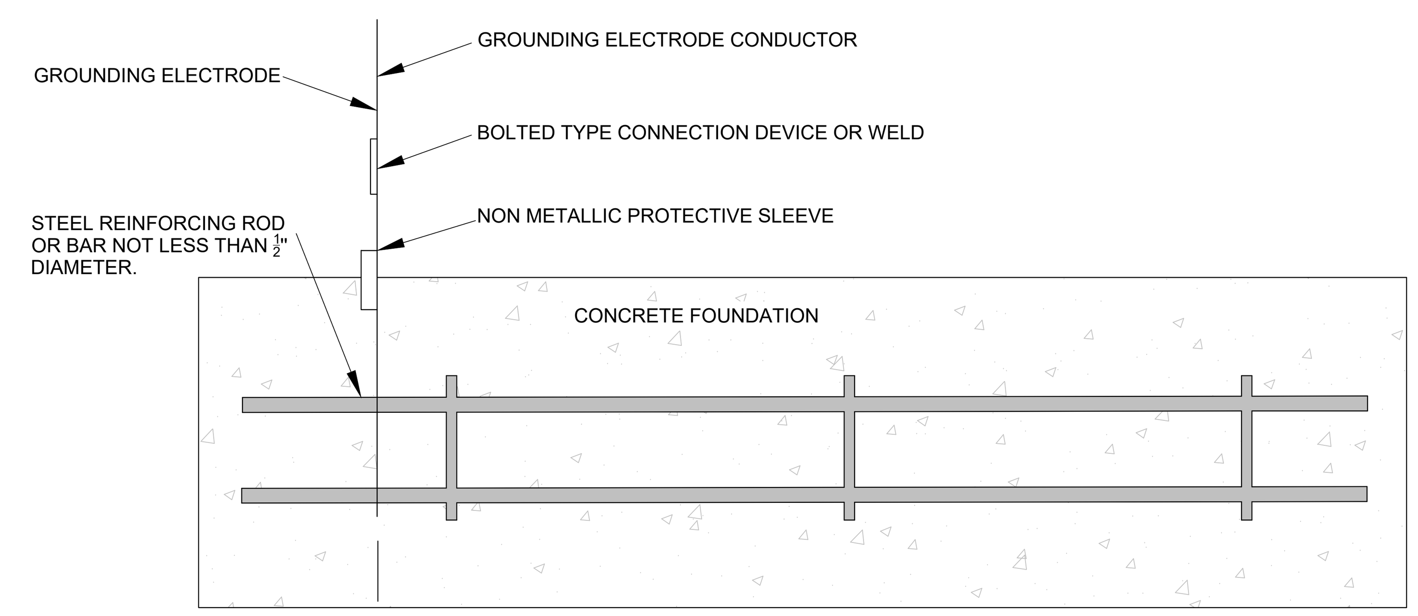
1. CONNECT EXHAUST FAN TO LIGHT SWITCH CONTROLLING ROOM LIGHTING. ONLY CONNECT TO MOTOR RATED SWITCH.
2. INSTALL JUNCTION BOX FOR WATER HEATER PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE FINAL LOCATION WITH PLUMBING PLANS.

ANNOTATION	
X	PLAN KEYNOTE
(symbol)	CONNECTION POINT OF NEW WORK TO EXISTING
1 / E1.1.1	DETAIL REFERENCE: UPPER NUMBER INDICATES DETAIL NUMBER, LOWER NUMBER INDICATES SHEET NUMBER
1 / E1.1.1	SECTION CUT DESIGNATION

ABBREVIATIONS

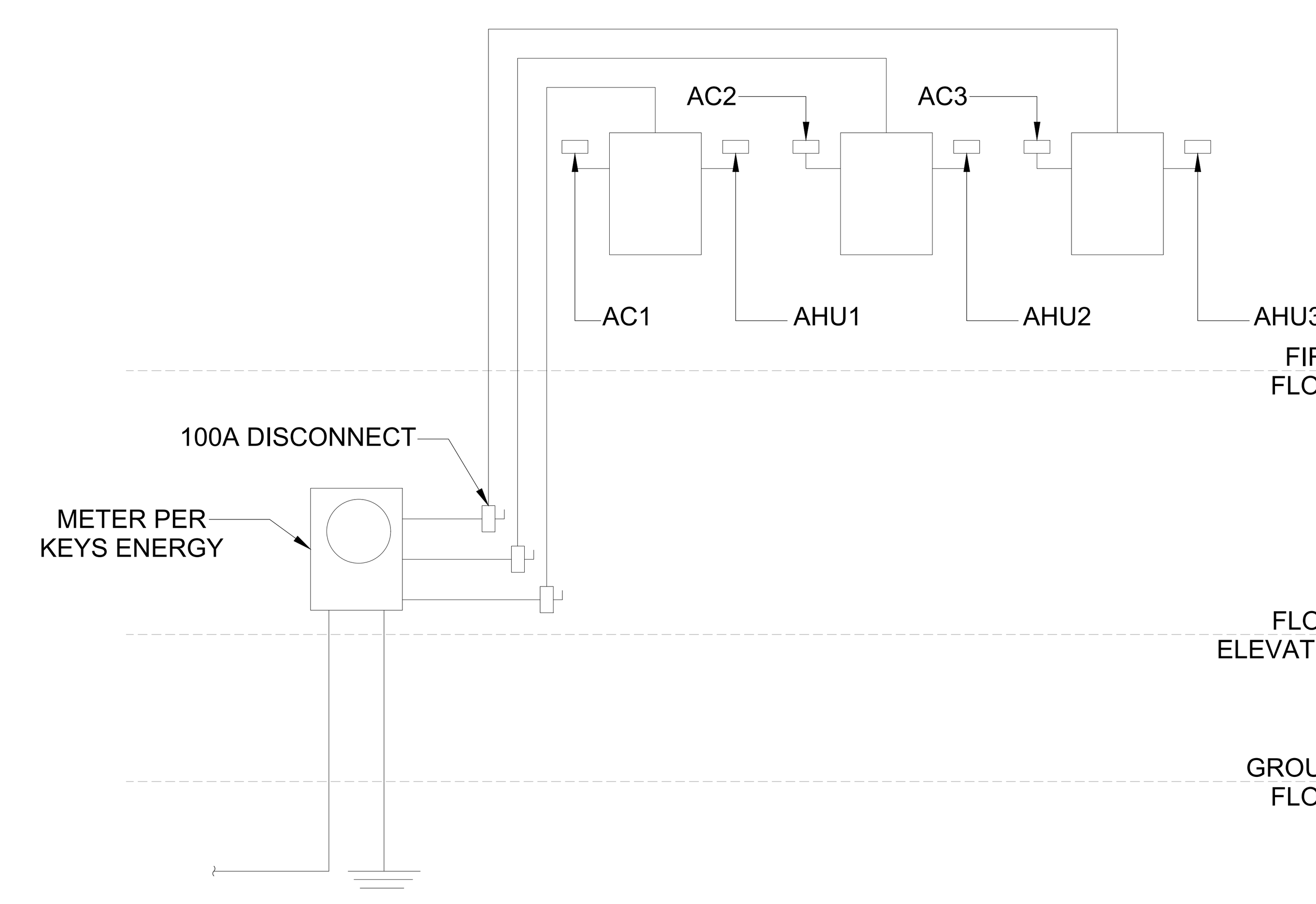
AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AL	ALUMINUM
BAS	BUILDING AUTOMATION SYSTEM
BFF	BELOW FINISHED FLOOR
CU	COPPER
DDC	DIRECT DIGITAL CONTROL
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EM	EMERGENCY LIGHTING
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
GC	GENERAL CONTRACTOR
GFCI/GFI	GROUND FAULT CIRCUIT INTERRUPTER
GR	GROUND
IG	ISOLATED GROUND
HD	HAND DRYER
LTG	LIGHTING
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MFR	MANUFACTURER
MIN	MINIMUM
MLO	MAIN LUG ONLY
NL	NIGHT LIGHT
PC	PLUMBING CONTRACTOR
PNLBD	PANELBOARD
RC	REFRIGERATION CONTRACTOR
RCPTS	RECEPTACLES
REF	REFERENCE
RH	RADIANT HEATER
RTU	ROOF TOP UNIT
SC	SECURITY CAMERA
TYP	TYPICAL
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
WH	WATER HEATER
WP	WEATHER PROOF COVERPLATE
WR	WEATHER RESISTANT RECEPTACLE
XFMR	TRANSFORMER

DEFINITION JWFF A70 (1996 EDITION)
CONCRETE ENCLOSED ELECTRODE : AN ELECTRODE ENCLOSED BY AT LEAST 2"(30MM) OF CONCRETE LOCATED WITHIN AND NEAR THE BOTTOM OF A CONCRETE FOUNDATION OF FOOTING IS IN DIRECT CON TACT WITH THE EARTH, CONSISTING OF AT LEAST 20 FEET (6.1M) OF ONE OR MORE BARE OR TWO GALVANIZED OR OTHER ELECTRICALLY CONDUCTIVE COATED STEEL REINFORCED BARS OF LESS THAN 1.8" (18.7MM) DIAMETER OF CONSISTING OF AT LEAST 20 FEET (6.1M) OF BARE STEEL CONDUCTION NOT SMALLER THAN NO.4.



NOTE: PER DETAIL THAT CONCRETE ENCLOSED GROUNDING ELECTRODE EXTENDS CUT OF THE FOOTER FOR CONNECTION TO GROUNDING ELECTRODE CONDUCTOR.

2 GROUNDING DETAIL
SCALE: 1'-0" = 1'-0"



1 RISER DIAGRAM
SCALE: 6" = 1'-0"

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CITY OF KEY WEST - WICKER'S FIELD ATHLETIC TRAILERS
1435 KENNEDY DRIVE; KEY WEST, FL 33040

PLOTTED: 4/18/2018 4:37 PM

Drawing Size	Project #: 18038
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Title:
ELECTRICAL NOTES ,SPECIFICATIONS AND DETAILS

Sheet Number:
E0.1.1

Date: 04/19/2018

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J:\2018\18038 - City of Key West - Wickers Field Athletic Trailers\4-CDs\Drawings\Elec\ELEC SHEET SET.dwg, 4/18/2018 4:37 PM, scale: 1'-0" = 1'-0", erica poole
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MECHANICAL SPECIFICATIONS

1: GENERAL

1.1 GENERAL REQUIREMENTS

REQUIREMENTS UNDER DIVISION ONE AND THE GENERAL AND SUPPLEMENTARY CONDITIONS OF THESE SPECIFICATIONS SHALL BE A PART OF THIS SECTION. THE CONTRACTOR SHALL BECOME THOROUGHLY ACQUAINTED WITH ITS CONTENTS AS TO REQUIREMENTS THAT AFFECT THIS DIVISION OR SECTION. THE WORK REQUIRED UNDER THIS SECTION INCLUDES MATERIAL, EQUIPMENT, APPLIANCES, TRANSPORTATION, SERVICES, AND LABOR REQUIRED TO COMPLETE THE ENTIRE SYSTEM AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS.

THE SPECIFICATIONS AND DRAWINGS FOR THE PROJECTS ARE COMPLEMENTARY, AND PORTIONS OF THE WORK DESCRIBED IN ONE, SHALL BE PROVIDED AS IF DESCRIBED IN BOTH. IN THE EVENT OF DISCREPANCIES, NOTIFY THE ENGINEER AND/OR OWNER AND REQUEST CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK INVOLVED.

1.2 INSPECTION OF SITE

PRIOR TO SUBMITTING BID, VISIT THE SITE OF THE PROPOSED WORK AND BECOME FULLY INFORMED AS TO THE CONDITIONS UNDER WHICH THE WORK IS TO BE DONE. FAILURE TO DO SO WILL NOT BE CONSIDERED SUFFICIENT JUSTIFICATION TO REQUEST OR OBTAIN EXTRA COMPENSATION OVER AND ABOVE THE CONTRACT PRICE.

1.3 MATERIAL AND WORKMANSHIP

PROVIDE NEW MATERIAL, EQUIPMENT, AND APPARATUS UNDER THIS CONTRACT UNLESS OTHERWISE STATED HEREIN, OF BEST QUALITY NORMALLY USED FOR THE PURPOSE IN GOOD COMMERCIAL PRACTICE, AND FREE FROM ANY DEFECTS. MODEL NUMBERS LISTED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS ARE NOT NECESSARILY INTENDED TO DESIGNATE THE REQUIRED TRIM, WRITTEN DESCRIPTIONS OF THE TRIM GOVERN MODEL NUMBERS.

WORK PERFORMED UNDER THIS CONTRACT SHALL PROVIDE A NEAT AND "WORKMANLIKE" APPEARANCE WHEN COMPLETED, TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER. WORKMANSHIP SHALL BE THE FINEST POSSIBLE BY EXPERIENCED MECHANICS. INSTALLATIONS SHALL COMPLY WITH APPLICABLE CODES AND LAWS.

THE COMPLETE INSTALLATION SHALL FUNCTION AS DESIGNED AND INTENDED WITH RESPECT TO EFFICIENCY, CAPACITY, NOISE LEVEL, ETC. ABNORMAL NOISE CAUSED BY RATTLING EQUIPMENT, PIPING, DUCTS, AIR DEVICES, AND SQUEAKS IN ROTATING COMPONENTS WILL NOT BE ACCEPTABLE. IN GENERAL, MATERIALS AND EQUIPMENT SHALL BE OF COMMERCIAL SPECIFICATION GRADE IN QUALITY. LIGHT DUTY AND RESIDENTIAL TYPE EQUIPMENT WILL NOT BE ACCEPTED.

REMOVE FROM THE PREMISES WASTE MATERIAL PRESENT AS A RESULT OF WORK, INCLUDING CARTONS, CRATING, PAPER, STICKERS, AND/OR EXCAVATION MATERIAL NOT USED IN BACKFILLING, ETC. CLEAN EQUIPMENT INSTALLED UNDER THIS CONTRACT TO PRESENT A NEAT AND CLEAN INSTALLATION AT THE TERMINATION OF THE WORK.

REPAIR OR REPLACE PUBLIC AND PRIVATE PROPERTY DAMAGED AS A RESULT OF WORK PERFORMED UNDER THIS CONTRACT TO THE SATISFACTION OF AUTHORITIES AND REGULATIONS HAVING JURISDICTION.

1.4 COORDINATION

COORDINATE WORK WITH THAT OF OTHER TRADES SO THAT THE VARIOUS COMPONENTS OF THE SYSTEMS WILL BE INSTALLED AT THE PROPER TIME, WILL FIT THE AVAILABLE SPACE, AND WILL ALLOW PROPER SERVICE ACCESS TO THOSE ITEMS REQUIRING MAINTENANCE. COMPONENTS WHICH ARE INSTALLED WITHOUT REGARD TO THE ABOVE SHALL BE RELOCATED AT NO ADDITIONAL COST TO THE OWNER.

UNLESS OTHERWISE INDICATED, THE GENERAL CONTRACTOR WILL PROVIDE CHASES AND OPENINGS IN BUILDING CONSTRUCTION REQUIRED FOR INSTALLATION OF THE SYSTEMS SPECIFIED HEREIN. THE CONTRACTOR SHALL FURNISH THE GENERAL CONTRACTOR WITH INFORMATION WHERE CHASES AND OPENINGS ARE REQUIRED, KEEP INFORMED AS TO THE WORK OF OTHER TRADES ENGAGED IN THE CONSTRUCTION OF THE PROJECT, AND EXECUTE WORK IN A MANNER AS TO NOT INTERFERE WITH OR DELAY THE WORK OF OTHER TRADES.

FIGURED DIMENSIONS SHALL BE TAKEN IN PREFERENCE TO SCALE DIMENSIONS. CONTRACTOR SHALL TAKE HIS OWN MEASUREMENTS AT THE BUILDING, AS VARIATIONS MAY OCCUR. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ERRORS THAT COULD HAVE BEEN AVOIDED BY PROPER CHECKING AND INSPECTION.

PROVIDE MATERIALS WITH TRIM THAT WILL PROPERLY FIT THE TYPES OF CEILING, WALL, OR FLOOR FINISHES ACTUALLY INSTALLED. MODEL NUMBERS LISTED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS ARE NOT INTENDED TO DESIGNATE THE REQUIRED TRIM.

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR DUCTWORK LAYOUT TO THE CONSTRUCTION MANAGER FOR OWNER APPROVAL PRIOR TO INSTALLATION.

1.5 ORDINANCES AND CODES

WORK PERFORMED UNDER THIS CONTRACT SHALL, AT A MINIMUM, BE IN CONFORMANCE WITH APPLICABLE NATIONAL, STATE, AND LOCAL CODES HAVING JURISDICTION. EQUIPMENT FURNISHED AND ASSOCIATED INSTALLATION WORK PERFORMED UNDER THIS CONTRACT SHALL BE IN STRICT COMPLIANCE WITH CURRENT APPLICABLE CODES ADOPTED BY THE LOCAL AHJ INCLUDING ANY AMENDMENTS AND STANDARDS AS SET FORTH BY THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), UNDERWRITERS LABORATORIES (UL), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME), AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS (ASHRAE), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), AMERICAN SOCIETY OF TESTING MATERIALS (ASTM), AND OTHER NATIONAL STANDARDS AND CODES WHERE APPLICABLE. WHERE THE CONTRACT DOCUMENTS EXCEED THE REQUIREMENTS OF THEIR REFERENCED CODES, STANDARDS, ETC., THE CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE.

PROCURE AND PAY FOR PERMITS AND LICENSES REQUIRED FOR THE ACCOMPLISHMENT OF THE WORK HEREIN DESCRIBED. WHERE REQUIRED, OBTAIN, PAY FOR, AND FURNISH CERTIFICATES OF INSPECTION TO THE OWNER. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR VIOLATIONS OF THE LAW.

1.6 PROTECTION OF EQUIPMENT AND MATERIALS

STORE AND PROTECT FROM DAMAGE EQUIPMENT AND MATERIALS DELIVERED TO JOB SITE. COVER WITH WATERPROOF, TEAR-RESISTANT, HEAVY TARP OR POLYETHYLENE PLASTIC AS REQUIRED TO PROTECT FROM PLASTER, DIRT, PAINT, WATER, OR PHYSICAL DAMAGE. EQUIPMENT AND MATERIAL THAT HAS BEEN DAMAGED BY CONSTRUCTION ACTIVITIES WILL BE REJECTED, AND CONTRACTOR IS OBLIGATED TO FURNISH NEW EQUIPMENT AND MATERIAL OF A LIKE KIND AS APPROVED BY OWNER.

KEEP PREMISES CLEAN FROM FOREIGN MATERIAL CREATED DURING WORK PERFORMED UNDER THIS CONTRACT. PIPING, EQUIPMENT, ETC., SHALL HAVE A NEAT AND CLEAN APPEARANCE AT THE TERMINATION OF THE WORK.

PLUG OR CAP OPEN ENDS OF DUCTWORK AND PIPING SYSTEMS WHILE STORED OR INSTALLED DURING CONSTRUCTION WHEN NOT IN USE THE PREVENT THE ENTRANCE OF DEBRIS INTO THE SYSTEMS.

1.7 SUBSTITUTIONS

THE BASE BID SHALL INCLUDE ONLY THE PRODUCTS FROM MANUFACTURERS SPECIFICALLY NAMED IN THE DRAWINGS AND SPECIFICATIONS. NO SUBSTITUTION WILL BE CONSIDERED PRIOR TO RECEIPT OF BIDS UNLESS WRITTEN REQUEST FOR APPROVAL TO BID HAS BEEN RECEIVED BY THE ENGINEER AT LEAST TEN CALENDAR DAYS PRIOR TO THE DATE FOR RECEIPT OF BIDS. EACH SUCH REQUEST SHALL INCLUDE THE NAME OF THE MATERIAL OR EQUIPMENT FOR WHICH IT IS TO BE SUBSTITUTED AND A COMPLETE DESCRIPTION OF THE PROPOSED SUBSTITUTE INCLUDING DRAWINGS, CUTS, PERFORMANCE AND TEST DATA AND OTHER INFORMATION NECESSARY FOR AN EVALUATION. A STATEMENT SETTING FORTH CHANGES IN OTHER MATERIALS, EQUIPMENT OR OTHER WORK THAT INCORPORATION OF THE SUBSTITUTE WOULD REQUIRE SHALL BE INCLUDED. THE BURDEN OF PROOF OF THE MERIT OF THE PROPOSED SUBSTITUTE IS UPON THE PROPOSER. THE ENGINEER'S DECISION OF APPROVAL OR DISAPPROVAL TO BID OF A PROPOSED SUBSTITUTION SHALL BE FINAL.

THE TERMS "APPROVED", "APPROVED EQUAL", AND "EQUAL" REFER TO APPROVAL BY THE ENGINEER AS AN ACCEPTABLE ALTERNATE BID. NO SUBSTITUTIONS WILL BE CONSIDERED THAT ARE NOT BID AS AN ALTERNATE. NO MATERIAL SUBSTITUTIONS SHALL BE CONSIDERED FOR APPROVAL PRIOR TO AWARD OF CONTRACT.

COORDINATE AND VERIFY WITH OTHER TRADES WHETHER OR NOT THE SUBSTITUTED EQUIPMENT CAN BE INSTALLED AS SHOWN ON THE CONSTRUCTION DRAWINGS WITHOUT MODIFICATION TO ASSOCIATED SYSTEMS OR ARCHITECTURAL OR ENGINEERING DESIGN. INCLUDE ADDITIONAL COSTS FOR ARCHITECTURAL AND ENGINEERING DESIGN FEES IN BID IF DRAWING MODIFICATIONS ARE REQUIRED BECAUSE OF SUBSTITUTED EQUIPMENT.

1.8 OPERATION AND MAINTENANCE INSTRUCTIONS

COLLECT AND COMPILE A COMPLETE BROCHURE OF FIXTURES, MATERIALS, AND EQUIPMENT FURNISHED AND INSTALLED ON THIS PROJECT. INCLUDE OPERATIONAL AND MAINTENANCE INSTRUCTIONS, MANUFACTURER'S CATALOG SHEETS, WIRING DIAGRAMS, PARTS LISTS, APPROVED SHOP DRAWINGS, AND DESCRIPTIVE LITERATURE FURNISHED BY THE MANUFACTURER. INCLUDE AN INSIDE COVER SHEET THAT LISTS THE PROJECT NAME, DATE, OWNER, ARCHITECT, ENGINEER, GENERAL CONTRACTOR, SUBCONTRACTOR, AND AN INDEX OF CONTENTS.

SUBMIT COPIES OF LITERATURE BOUND IN APPROVED BINDERS TO THE ARCHITECT AND OWNER AT THE TERMINATION OF THE WORK. PAPER CLIPS, STAPLES, RUBBER BANDS, AND MAILING ENVELOPES ARE NOT CONSIDERED APPROVED BINDERS. FINAL APPROVAL OF MECHANICAL SYSTEMS WILL BE WITHHELD UNTIL THIS EQUIPMENT BROCHURE IS DEEMED COMPLETE BY THE ARCHITECT, ENGINEER, AND OWNER.

1.9 SPARE PARTS

FURNISH TO OWNER, WITH RECEIPT, THE FOLLOWING SPARE PARTS FOR THE EQUIPMENT FURNISHED FOR THIS PROJECT:

ONE SET OF SPARE FILTERS OF EACH TYPE REQUIRED FOR EACH UNIT. IN ADDITION TO THE SPARE SET OF FILTERS, INSTALL NEW FILTERS PRIOR TO TESTING, ADJUSTING, AND BALANCING WORK AND BEFORE TURNING SYSTEM OVER TO OWNER.

FURNISH ONE COMPLETE SET OF BELTS FOR EACH FAN.

FURNISH THREE OPERATING KEYS FOR EACH TYPE OF AIR OUTLET AND INLET THAT REQUIRES THEM.

1.10 WARRANTIES

WARRANT EACH SYSTEM AND EACH ELEMENT THEREOF AGAINST ALL DEFECTS DUE TO FAULTY WORKMANSHIP, DESIGN, OR MATERIAL FOR A PERIOD OF 12 MONTHS FROM DATE OF SUBSTANTIAL COMPLETION, UNLESS SPECIFIC ITEMS ARE NOTED TO CARRY A LONGER WARRANTY IN THE CONSTRUCTION DOCUMENTS OR MANUFACTURER'S STANDARD WARRANTY EXCEEDS 12 MONTHS. REMEDY ALL DEFECTS, OCCURRING WITHIN THE WARRANTY PERIOD(S), AS STATED IN THE GENERAL CONDITIONS AND DIVISION 1.

WARRANTIES SHALL INCLUDE LABOR AND MATERIAL. MAKE REPAIRS OR REPLACEMENTS WITHOUT ANY ADDITIONAL COSTS TO THE OWNER.

PERFORM THE REMEDIAL WORK PROMPTLY, UPON WRITTEN NOTICE FROM THE ENGINEER OR OWNER.

AT THE TIME OF SUBSTANTIAL COMPLETION, DELIVER TO THE OWNER ALL WARRANTIES, IN WRITING AND PROPERLY EXECUTED, INCLUDING TERM LIMITS FOR WARRANTIES EXTENDING BEYOND THE ONE YEAR PERIOD, EACH WARRANTY INSTRUMENT BEING ADDRESSED TO THE OWNER AND STATING THE COMMENCEMENT DATE AND TERM.

1.11 CUTTING AND PATCHING

PERFORM CUTTING OF WALLS, FLOORS, CEILINGS, ETC. AS REQUIRED TO INSTALL WORK UNDER THIS SECTION. OBTAIN PERMISSION FROM THE ARCHITECT PRIOR TO CUTTING. DO NO CUT OR DISTURB STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL FROM THE ARCHITECT. CUT HOLES AS SMALL AS POSSIBLE. GENERAL CONTRACTOR SHALL PATCH WALLS, FLOORS, ETC. AS REQUIRED BY WORK UNDER THIS SECTION. PATCHING SHALL MATCH THE ORIGINAL MATERIAL AND CONSTRUCTION. REPAIR AND REFINISH AREAS DISTURBED BY WORK TO THE CONDITION OF ADJOINING SURFACES IN A MANNER SATISFACTORY TO THE ARCHITECT.

1.12 ROUGH-IN

COORDINATE WITHOUT DELAY ROUGHING-IN WITH GENERAL CONSTRUCTION. CONCEAL PIPING AND CONDUIT ROUGH-IN EXCEPT IN UNFINISHED AREAS WHERE OTHERWISE SHOWN.

1.13 STRUCTURAL STEEL

STRUCTURAL STEEL USED FOR PIPE SUPPORTS, EQUIPMENT SUPPORTS, ETC., SHALL BE NEW, CLEAN, AND CONFORM TO ASTM DESIGNATION A-36.

SUPPORT PLUMBING AND MECHANICAL EQUIPMENT AND PIPING FROM THE BUILDING STRUCTURE. DO NOT SUPPORT PLUMBING EQUIPMENT FROM CEILINGS, OTHER MECHANICAL OR ELECTRICAL COMPONENTS, AND OTHER NON-STRUCTURAL ELEMENTS.

1.14 ACCESS DOORS

PROVIDE ACCESS DOORS IN CEILINGS AND WALLS WHERE INDICATED OR REQUIRED FOR ACCESS TO CONCEALED VALVES AND EQUIPMENT INSTALLED UNDER THIS SECTION. PROVIDE CONCEALED HINGES, SCREWDRIVER-TYPE LOCK, ANCHOR STRAPS; MANUFACTURED BY MILCOR, ZURN, TITUS, OR EQUAL. OBTAIN ARCHITECT'S APPROVAL OF TYPE, SIZE, LOCATION, AND COLOR BEFORE ORDERING.

1.15 PENETRATIONS

SEAL FLOOR, EXTERIOR WALL AND ROOF PENETRATIONS WATER AND WEATHER TIGHT WITH APPROPRIATE NON-SHRINK, NON-HARDENING COMMERCIAL CONSTRUCTION SEALANT. SEAL ROOF PENETRATIONS WITH FOUR POUND PER SQUARE FOOT LEAD FLASHING. PROVIDE A SLEEVE, AND SEAL NON-FIRE-RATED FLOOR AND WALL PENETRATIONS WITH FIBERGLASS PACKING AND SILICONE CAULK (FOR ACOUSTICAL INSULATION).

COORDINATE FIRE RATING REQUIREMENTS AND LOCATIONS WITH THE ARCHITECT. SEAL PENETRATIONS OF FIRE-RATED ASSEMBLIES WITH 3M #CP-25 FIRE BARRIER CAULK (PROVIDE THICKNESS AND METHOD AS REQUIRED AND RECOMMENDED BY MANUFACTURER) TO MAINTAIN THE FIRE RESISTANCE RATING OF FIRE-RATED ASSEMBLIES.

SEAL EXTERIOR WALL PENETRATIONS BELOW GRADE WITH CAST IRON WALL PIPES AND MODULAR MECHANICAL SLEEVE SEALS, MANUFACTURED BY THUNDERLINE/LINK SEAL, CALPICO, INC AND METRAFLEX.

PROVIDE SLEEVES FOR HORIZONTAL PIPE PASSING THROUGH OR UNDER THE FOUNDATION. SLEEVES SHALL BE CAST IRON SOIL PIPE TWO NOMINAL PIPE SIZES LARGER THAT THE PIPE SERVED.

PROVIDE SLEEVES FOR VERTICAL PIPE PASSING THROUGH SLAB ON GRADE. SLEEVES SHALL BE SCHEDULE 40 PVC PIPE, TWO NOMINAL PIPE SIZES LARGER THAN THE PIPE SERVED. SEAL WATER-TIGHT WITH SILICONE CAULK.

2: HEATING, VENTILATION, AND AIR CONDITIONING

2.1 DUCTWORK

CONTRACTOR SHALL PROVIDE ANY DUCTWORK NECESSARY FOR A COMPLETE INSTALLATION OF HVAC SYSTEMS (INCLUDING EXHAUST SYSTEMS). ALL DUCTWORK IDENTIFICATION AND INSTALLATION TO ADHERE TO ASHRAE AND SMACNA STANDARDS AND ALL GOVERNING CODES.

DUCTWORK SHALL BE A MINIMUM 26 GAUGE GALVANIZED STEEL SHEET METAL DUCTWORK.

SUPPLY DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR A TWO-INCH POSITIVE PRESSURE RATING AND SEAL CLASS B.

RETURN DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR A ONE-INCH NEGATIVE PRESSURE RATING AND SEAL CLASS C.

EXHAUST DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR A ONE-INCH POSITIVE PRESSURE RATING AND SEAL CLASS C.

ROUND DUCT RUNS SHALL BE CONSTRUCTED OF METAL PIPE WITH EXTERNAL SLEEVE INSULATION.

DUCTWORK CONNECTIONS TO AIR DEVICES MUST BE MADE WITH HARDPIPE ELBOWS, COVERED WITH SLEEVE INSULATION. FLEX DUCT MUST NOT BE UTILIZED FOR A 90 DEGREE CONNECTION TO AN AIR DEVICE.

VOLUME/BALANCING DAMPERS SHALL BE PROVIDED IN ALL BRANCH DUCT TAKE-OFFS FROM THE MAIN TRUNKS, UNLESS NOTED OTHERWISE ON PLANS. LOCATE DAMPERS A MINIMUM OF 4'-0" AWAY FROM AIR DEVICES.

A MAXIMUM OF 5'-0" OF FLEX DUCT MAY BE USED FOR FINAL CONNECTION OF AIR DEVICES.

FLEX DUCT MUST BE PROPERLY SUPPORTED WITH ONE INCH STRAPS AND CUT TO PROPER LENGTH TO PREVENT SAGGING.

FLEX DUCT SHALL BE OWENS-CORNING FOIL-BACK HIGH QUALITY U/L APPROVED OR EQUAL. PLASTIC WRAPPED FLEX DUCT IS NOT ACCEPTABLE.

DUCTWORK SHALL BE CONNECTED TO FANS, FAN CASINGS, AND FAN PLENUMS BY MEANS OF FLEXIBLE CONNECTIONS.

MITERED ELBOWS 45 DEGREES AND GREATER SHALL HAVE SINGLE THICKNESS TURNING VANES OF SAME GAUGE AS DUCTWORK.

2.2 INSULATION

SUPPLY AND RETURN DUCTWORK INSIDE THE BUILDING SHALL BE INSULATED WITH 1.5" THICK ACOUSTICAL LINING WITH A MINIMUM R-VALUE OF 6 OR EXTERNALLY WRAPPED WITH 2" THICK GLASS FIBER DUCT WRAP.

SUPPLY AND RETURN DUCTWORK LOCATED OUTSIDE THE BUILDING SHALL BE INSULATED WITH 2" LINER WITH A MINIMUM R-VALUE OF 8 AND SEAL SEAMS WEATHER TIGHT.

DEDICATED OUTSIDE AIR SUPPLY AND RELIEF DUCTWORK INSIDE THE BUILDING SHALL BE INSULATED WITH 2" DUCT WRAP WITH A MINIMUM R-VALUE OF 6.

2.3 PIPING

REFER TO PLUMBING SPECIFICATIONS FOR GAS AND CONDENSATE PIPING SPECIFICATIONS.

2.4 FINAL TESTING AND ADJUSTMENTS

AIR BALANCE SHALL BE PERFORMED BY AN INDEPENDENT AIR BALANCE CONTRACTOR. BALANCE EACH SUPPLY, RETURN, OUTSIDE AIR DEVICE WITHIN 5% OF REQUIREMENTS AND FURNISH A REPORT TO THE CONSTRUCTION MANAGER. THE ENTIRE HVAC SYSTEM MUST BE FULLY OPERABLE, BALANCED, AND APPROVED BY OWNER'S REPRESENTATIVE ON THE DAY TENANT OPENS FOR BUSINESS.

ADJUST THERMOSTATS AND CONTROL DEVICES TO OPERATE AS INTENDED. ADJUST BURNERS, PUMPS, FANS, ETC. FOR PROPER AND EFFICIENT OPERATION. CERTIFY TO ARCHITECT THAT ADJUSTMENTS HAVE BEEN MADE AND THAT SYSTEM IS OPERATING SATISFACTORILY. CALIBRATE, SET AND ADJUST AUTOMATIC TEMPERATURE CONTROLS. CHECK PROPER SEQUENCING OF INTERLOCK SYSTEMS, AND OPERATION OF SAFETY CONTROLS.

VERIFY ECONOMIZER OPERATION PER MANUFACTURER PROCEDURE WHEN APPLICABLE.

2.5 AIR DEVICES

PROVIDE AIR DEVICES AS SCHEDULED ON THE DRAWINGS.

MAINTAIN NOISE LEVEL OF NC-30 OR LESS.

ALL AIR TERMINAL DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS IN ORDER TO HANDLE THE DESIGNED AIR FLOW CAPACITIES WITH A MINIMUM AMOUNT OF NOISE AND STATIC PRESSURE.

PROVIDE AIR DEVICES WITH WHITE ENAMEL FINISH UNLESS NOTED OTHERWISE.

2.6 CONTROLS

COORDINATE LOCATIONS FOR THERMOSTATS AND SENSORS FOR ROUGH-IN.

SMOKE DETECTORS SHALL BE FACTORY INSTALLED AND SHALL DISABLE HVAC UNIT OPERATION UPON ACTIVATION.

2.7 ELECTRICAL WIRING

ALL PROVISIONS FOR LOW VOLTAGE WIRING SHALL BE PERFORMED BY THE CONTRACTOR UNLESS CODES OR LABOR SITUATIONS DO NOT PERMIT. IF THE CONTRACTOR CANNOT PERFORM LOW VOLTAGE WIRING, THE CONTRACTOR SHALL INFORM THE GENERAL CONTRACTOR, AS PART OF THE HVAC BID DOCUMENT, TO HAVE THE ELECTRICAL SUBCONTRACTOR INCLUDE THIS WORK IN THEIR BID.

ALL ELECTRICAL POWER WIRING TO INCLUDE FINAL CONNECTIONS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR'S ELECTRICAL SUBCONTRACTOR.

2.8 REMODEL WORK

REMOVE ALL UNUSED EQUIPMENT, DUCTWORK, PIPING AND ASSOCIATED SUPPORTS. CAP DUCTWORK AND PIPING AT MAINS AND SEAL AIR AND WATER TIGHT.

PROVIDE ITEMS OF HVAC SYSTEMS MODIFICATION REQUIRED BECAUSE OF BUILDING REMODELING, AS NOTED ON THE DRAWINGS OR NECESSARY FOR PROPER OPERATION. MATCH EXISTING MATERIALS AND CONSTRUCTION TECHNIQUES WHEN MODIFYING EXISTING SYSTEMS UNLESS SPECIFIED OTHERWISE. COORDINATE ADDITIONAL REQUIREMENTS WITH GENERAL CONTRACTOR AND ARCHITECT.

SEAL AIRTIGHT EXISTING DUCTWORK REQUIRED TO BE ABANDONED IN PLACE OR NOT IN USE AT THE TERMINATION OF THE WORK.

CAP AND SEAL WEATHERTIGHT EXISTING ROOF CURBS AND ROOF OPENINGS TO BE ABANDONED IN PLACE AS A RESULT OF EQUIPMENT REMOVAL.

CLEAN AND REBALANCE EXISTING DUCTWORK, DIFFUSERS, REGISTERS, AND GRILLES INTENDED FOR REUSE AS REQUIRED OR AS INDICATED ON DRAWINGS.

CLEAN AND REFURBISH EXISTING HVAC EQUIPMENT INTENDED FOR REUSE AS REQUIRED FOR PROPER OPERATION INCLUDING REPLACEMENT OF FILTERS, BELTS, MOTORS, REMOTE CONTROLS, AND SAFETY INTERLOCKS.

COMPLY WITH THE SCHEDULE OF OPERATIONS AS OUTLINED IN THE ARCHITECTURAL PORTIONS OF THIS SPECIFICATION. BUILDING SHALL BE IN CONTINUOUS OPERATION. ACCOMPLISH WORK REQUIRING INTERRUPTION OF BUILDING OPERATION AT A TIME WHEN THE BUILDING IS NOT IN OPERATION, AND ONLY WITH WRITTEN APPROVAL OF BUILDING OWNER AND/OR TENANT. COORDINATE INTERRUPTION OF BUILDING OPERATION WITH THE OWNER AND/OR TENANT A MINIMUM OF SEVEN DAYS IN ADVANCE OF WORK.

2.9 CONTRACTOR RESPONSIBILITIES

AFTER COMPLETION OF THE WORK DESCRIBED IN THIS SPECIFICATION AND SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL EXPOSED EQUIPMENT, REMOVING ALL LABELS AND STICKERS NOT CONTAINING OPERATION INSTRUCTION. CONTRACTOR SHALL REMOVE CRATING DEBRIS, LEAVING THE INSTALLATION FINISHED AND READY FOR OPERATION, INCLUDING CLEAN FILTERS IN AIR HANDLING UNITS.

MECHANICAL GENERAL NOTES

1. NOTES APPLY TO ALL MECHANICAL SHEETS.
2. EACH CONTRACTOR IS RESPONSIBLE FOR HAVING THOROUGH KNOWLEDGE OF ALL DRAWINGS AND SPECIFICATIONS AS THEY RELATE TO THIS WORK.
3. PROVIDE ALL MATERIALS FOR A COMPLETE INSTALLATION IN ALL RESPECTS READY FOR INTENDED USE AND IN STRICT ACCORDANCE WITH STATE AND LOCAL CODES AND MANUFACTURER'S RECOMMENDATIONS.
4. EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
5. COORDINATE THE INSTALLATION OF THE MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE INSTALLATION OF DUCTWORK AND PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. ANY MODIFICATIONS REQUIRED DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.
6. DURING INSTALLATION OF NEW WORK, AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN. REPAIR DAMAGE CAUSED DURING CONSTRUCTION AT NO EXTRA COST TO THE OWNER.
7. ALL MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS NOTED OTHERWISE.
8. NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING ARE SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. VERIFY THAT FINAL EQUIPMENT LOCATIONS MEET MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
9. DUCTWORK IDENTIFICATION AND INSTALLATION SHALL ADHERE TO GOVERNING CODES.
10. INSTALL DUCTWORK AND PIPING PARALLEL TO BUILDING COLUMN LINES UNLESS OTHERWISE SHOWN OR NOTED.
11. OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT, DUCTWORK AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF.
12. COORDINATE LOCATION OF EQUIPMENT SUPPORTS WITH LOCATION OF EQUIPMENT ACCESS PANELS/DOORS TO ENABLE SERVICE OF EQUIPMENT.
13. SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
14. COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL AND DUCT INSTALLATION REQUIREMENTS.
15. SPRINKLER HEAD AND LIGHTING FIXTURE LOCATIONS TAKE PRECEDENCE OVER DIFFUSER LOCATIONS. ADJUST LOCATION OF CEILING DIFFUSERS, REGISTERS AND GRILLES AS REQUIRED TO ACCOMMODATE FINAL CEILING GRID, SPRINKLER, AND LIGHTING LOCATIONS.
16. ALL CEILING DIFFUSERS ARE 4-WAY PATTERN UNLESS NOTED OTHERWISE.
17. LOCATE AND SET THERMOSTATS AT LOCATIONS SHOWN ON PLANS. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. INSTALL DEVICES WITH TOP OF DEVICE AT MAXIMUM 48" AFF TO MEET ADA REQUIREMENTS UNLESS NOTED OTHERWISE ON PLANS. INSTALL WIRING IN CONDUIT PROVIDED BY DIVISION 16.
18. DUCTWORK CROSSING FIRE RATED WALLS OR OTHER FIRE RATED ASSEMBLIES SHALL BE MINIMUM 26 GAUGE SHEET METAL.
19. PROVIDE FIRE OR FIRE/SMOKE DAMPERS, AS APPLICABLE, IN DUCTWORK AT CEILINGS AND WALLS AT LOCATIONS SHOWN ON THE PLANS. FIRE AND FIRE/SMOKE DAMPERS SHALL CONFORM TO NFPA AS APPLICABLE. COORDINATE SLEEVE LENGTH WITH REQUIREMENTS OF INSTALLED LOCATION.
20. PROVIDE WALL OR DUCT ACCESS PANELS OR DOORS FOR ACCESS TO FIRE AND FIRE/SMOKE DAMPERS. ACCESS PANEL OR DOOR SHALL BE MINIMUM SIZE OF 10" BY 10" AND SHALL BE INSTALLED WITHIN 12" OF DAMPER. PROVIDE A REMOVABLE DUCT SECTION WHERE DUCT SIZE IS TOO SMALL FOR A 10" BY 10" ACCESS DOOR.
21. PROVIDE A MANUAL BALANCING DAMPER IN EACH BRANCH DUCT TAKEOFF FROM MAIN SUPPLY, RETURN, OUTDOOR AND EXHAUST AIR DUCTS. LOCATE DAMPERS A MINIMUM 4'-0" AWAY FROM DIFFUSERS. PROVIDE ACCESS AS REQUIRED.
22. PROVIDE A PREFABRICATED 45 DEGREE, HIGH EFFICIENCY, RECTANGULAR/ROUND BRANCH DUCT TAKEOFF FITTING WITH MANUAL BALANCING DAMPER AND LOCKING QUADRANT FOR BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS AND GRILLES.
23. BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS NOTED OTHERWISE. TYPICAL BRANCH DUCT FITTING DETAIL IS APPLICABLE THROUGHOUT.
24. RIGID DUCTWORK INSULATION: PROVIDE 3/4 LB DENSITY, 2" R-6 THICK, INSULATION WRAP ON RIGID ROUND AND RECTANGULAR, CONCEALED, SUPPLY AND RETURN AIR DUCTS AND ON OUTSIDE AIR DUCTS. CONTRACTOR'S OPTION TO FURNISH AND INSTALL 1-1/2 LB DENSITY, 1-1/2" R-6 THICK INTERNAL DUCT LINER ON RECTANGULAR SUPPLY AND RETURN AIR DUCTS IN LIEU OF DUCTWRAP.
25. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS AND REPRESENTATIVE OF THE INSIDE EQUIVALENT FREE AREA REQUIRED TO MAINTAIN THE AIR FLOW SPECIFIED. IF DUCT LINING IS REQUIRED, INCREASE DUCT SIZE TO MAINTAIN ORIGINAL INSIDE DIMENSIONS. IF DUCT SIZES NEED TO BE ALTERED FOR SPACE REQUIREMENTS, ENSURE THE ORIGINAL INSIDE DUCT EQUIVALENT FREE AREA IS MAINTAINED.
26. CONTRACTOR'S OPTION TO SUBSTITUTE ROUND DUCT OF EQUAL FREE AREA FOR RECTANGULAR DUCT AND VICE VERSA. DIMENSIONS OF RECTANGULAR DUCT MAY BE ADJUSTED AS NECESSARY TO INSTALL DUCT IN AVAILABLE SPACE AS LONG AS FREE AREA IS MAINTAINED.
27. PROVIDE THERMAFLEX TYPE G-KM, M-KE, FLEXMASTER TYPE 8, OR APPROVED EQUAL FLEXIBLE DUCTWORK. FLEXIBLE DUCTWORK SHALL BE LISTED UNDER UL 181 AS CLASS 1 AIR DUCT AND BE PROVIDED WITH INTEGRAL R-6, 3/4 LB DENSITY FIBERGLASS INSULATION. FLEXIBLE DUCTWORK SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL BE INSTALLED AND SUPPORTED TO AVOID SHARP BENDS AND SAGGING.
28. FOR ALL EXPOSED DUCTWORK, PROVIDE DUCT THAT IS SUITABLE FOR PAINTING. ENSURE THAT ALL EXPOSED DUCTWORK IS PROPERLY PREPARED AND READY FOR PAINTING. COORDINATE COLOR WITH ARCHITECT.
29. PROVIDE A NEW SET OF AIR FILTERS IN UNITS PRIOR TO TESTING, ADJUSTING AND BALANCING AND BEFORE TURNING SYSTEM(S) OVER TO OWNER.
30. PROVIDE A COMPLETE TEST AND BALANCE FOR HVAC SYSTEM. AIR BALANCE SHALL BE WITHIN 5% OF SCHEDULED AIRFLOWS.
31. INSTALL VTR'S AND EXHAUST FANS A MINIMUM OF 10 FT FROM OUTSIDE AIR INTAKE.

MECHANICAL SYMBOLS

(SYMBOLS APPLY ONLY WHEN USED ON DRAWINGS)

SYMBOL	DESCRIPTION
18/12	RECTANGULAR DUCT 18" WIDE BY 12" DEEP (INSIDE CLEAR DIMENSIONS)
12"Ø	12"Ø DIAMETER ROUND DUCT (INSIDE CLEAR DIMENSIONS)
	SUPPLY DUCT IN SECTION (UP / DOWN)
	RETURN OR EXHAUST DUCT IN SECTION (UP / DOWN)
	ELBOW WITH TURNING VANES
	VOLUME/BALANCE DAMPER
M	MOTORIZED DAMPER
	SUPPLY AIR DIFFUSER
	RETURN OR EXHAUST AIR GRILLE
CD 12"Ø 500	DIFFUSER OR GRILLE TYPE BRANCH DUCT & NECK SIZE CFM
T	THERMOSTAT
S	TEMPERATURE SENSOR
C	CO2 SENSOR
H	HUMIDISTAT
D	SMOKE DETECTOR
TM	TIMER
FD	FIRE DAMPER
ANNOTATION	
X	PLAN KEYNOTE
XXX	MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
	CONNECTION POINT OF NEW WORK TO EXISTING
1 M1.1.1	DETAIL REFERENCE: UPPER NUMBER INDICATES DETAIL NUMBER, LOWER NUMBER INDICATES SHEET NUMBER
1 M1.1.1	SECTION CUT DESIGNATION

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
BAS	BUILDING AUTOMATION SYSTEM
BFF	BELOW FINISHED FLOOR
CD	CEILING SUPPLY AIR DIFFUSER
CF	CEILNG FAN
CFM	CUBIC FEET PER MINUTE
CU	CONDENSING UNIT
DDC	DIRECT DIGITAL CONTROL
EA	EXHAUST AIR
EAG	EXHAUST AIR GRILLE
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ETR	EXISTING TO REMAIN
GC	GENERAL CONTRACTOR
IN WC	INCHES OF WATER COLUMN
MAX	MAXIMUM
MBH	1000 BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MFR	MANUFACTURER
MIN	MINIMUM
MS	MOP SINK
OA	OUTSIDE AIR
PC	PLUMBING CONTRACTOR
RA	RETURN AIR
RAG	RETURN AIR GRILLE
RAW	RETURN AIR WALL GRILLE
RC	REFRIGERATION CONTRACTOR
REF	REFERENCE
RH	RADIANT HEATER
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SAW	SUPPLY AIR WALL REGISTER
TYP	TYPICAL
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
VTR	VENT THRU ROOF
WH	WATER HEATER

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1435 KENNEDY DRIVE;
KEY WEST, FL 33040

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PLUMBING SPECIFICATIONS

1. GENERAL

1.1 GENERAL REQUIREMENTS

REQUIREMENTS UNDER DIVISION ONE AND THE GENERAL AND SUPPLEMENTARY CONDITIONS OF THESE SPECIFICATIONS SHALL BE A PART OF THIS SECTION. THE CONTRACTOR SHALL BECOME THOROUGHLY ACQUAINTED WITH ITS CONTENTS AS TO REQUIREMENTS THAT AFFECT THIS DIVISION OR SECTION. THE WORK REQUIRED UNDER THIS SECTION INCLUDES MATERIAL, EQUIPMENT, APPLIANCES, TRANSPORTATION, SERVICES, AND LABOR REQUIRED TO COMPLETE THE ENTIRE SYSTEM AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS.

THE SPECIFICATIONS AND DRAWINGS FOR THE PROJECTS ARE COMPLEMENTARY, AND PORTIONS OF THE WORK DESCRIBED IN ONE, SHALL BE PROVIDED AS IF DESCRIBED IN BOTH. IN THE EVENT OF DISCREPANCIES, NOTIFY THE ENGINEER AND/OR OWNER AND REQUEST CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK INVOLVED.

1.2 INSPECTION OF SITE

PRIOR TO SUBMITTING BID, VISIT THE SITE OF THE PROPOSED WORK AND BECOME FULLY INFORMED AS TO THE CONDITIONS UNDER WHICH THE WORK IS TO BE DONE. FAILURE TO DO SO WILL NOT BE CONSIDERED SUFFICIENT JUSTIFICATION TO REQUEST OR OBTAIN EXTRA COMPENSATION OVER AND ABOVE THE CONTRACT PRICE.

1.3 MATERIAL AND WORKMANSHIP

PROVIDE NEW MATERIAL, EQUIPMENT, AND APPARATUS UNDER THIS CONTRACT UNLESS OTHERWISE STATED HEREIN, OF BEST QUALITY NORMALLY USED FOR THE PURPOSE IN GOOD COMMERCIAL PRACTICE, AND FREE FROM ANY DEFECTS. MODEL NUMBERS LISTED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS ARE NOT NECESSARILY INTENDED TO DESIGNATE THE REQUIRED TRIM, WRITTEN DESCRIPTIONS OF THE TRIM GOVERN MODEL NUMBERS.

WORK PERFORMED UNDER THIS CONTRACT SHALL PROVIDE A NEAT AND "WORKMANLIKE" APPEARANCE WHEN COMPLETED, TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER. WORKMANSHIP SHALL BE THE FINEST POSSIBLE BY EXPERIENCED MECHANICS. INSTALLATIONS SHALL COMPLY WITH APPLICABLE CODES AND LAWS.

THE COMPLETE INSTALLATION SHALL FUNCTION AS DESIGNED AND INTENDED WITH RESPECT TO EFFICIENCY, CAPACITY, NOISE LEVEL, ETC. ABNORMAL NOISE CAUSED BY RATTLING EQUIPMENT, PIPING, AND SQUEAKS IN ROTATING COMPONENTS WILL NOT BE ACCEPTABLE. IN GENERAL, MATERIALS AND EQUIPMENT SHALL BE OF COMMERCIAL SPECIFICATION GRADE IN QUALITY. LIGHT DUTY AND RESIDENTIAL TYPE EQUIPMENT WILL NOT BE ACCEPTED.

REMOVE FROM THE PREMISES WASTE MATERIAL PRESENT AS A RESULT OF WORK, INCLUDING CARTONS, CRATING, PAPER, STICKERS, AND/OR EXCAVATION MATERIAL NOT USED IN BACKFILLING, ETC. CLEAN EQUIPMENT INSTALLED UNDER THIS CONTRACT TO PRESENT A NEAT AND CLEAN INSTALLATION AT THE TERMINATION OF THE WORK.

REPAIR OR REPLACE PUBLIC AND PRIVATE PROPERTY DAMAGED AS A RESULT OF WORK PERFORMED UNDER THIS CONTRACT TO THE SATISFACTION OF AUTHORITIES AND REGULATIONS HAVING JURISDICTION.

1.4 COORDINATION

COORDINATE WORK WITH THAT OF OTHER TRADES SO THAT THE VARIOUS COMPONENTS OF THE SYSTEMS WILL BE INSTALLED AT THE PROPER TIME, WILL FIT THE AVAILABLE SPACE, AND WILL ALLOW PROPER SERVICE ACCESS TO THOSE ITEMS REQUIRING MAINTENANCE. COMPONENTS WHICH ARE INSTALLED WITHOUT REGARD TO THE ABOVE SHALL BE RELOCATED AT NO ADDITIONAL COST TO THE OWNER.

UNLESS OTHERWISE INDICATED, THE GENERAL CONTRACTOR WILL PROVIDE CHASES AND OPENINGS IN BUILDING CONSTRUCTION REQUIRED FOR INSTALLATION OF THE SYSTEMS SPECIFIED HEREIN. THE CONTRACTOR SHALL FURNISH THE GENERAL CONTRACTOR WITH INFORMATION WHERE CHASES AND OPENINGS ARE REQUIRED, KEEP INFORMED AS TO THE WORK OF OTHER TRADES ENGAGED IN THE CONSTRUCTION OF THE PROJECT, AND EXECUTE WORK IN A MANNER AS TO NOT INTERFERE WITH OR DELAY THE WORK OF OTHER TRADES.

FIGURED DIMENSIONS SHALL BE TAKEN IN PREFERENCE TO SCALE DIMENSIONS. CONTRACTOR SHALL TAKE HIS OWN MEASUREMENTS AT THE BUILDING, AS VARIATIONS MAY OCCUR. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ERRORS THAT COULD HAVE BEEN AVOIDED BY PROPER CHECKING AND INSPECTION.

PROVIDE MATERIALS WITH TRIM THAT WILL PROPERLY FIT THE TYPES OF CEILING, WALL, OR FLOOR FINISHES ACTUALLY INSTALLED. MODEL NUMBERS LISTED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS ARE NOT INTENDED TO DESIGNATE THE REQUIRED TRIM.

1.5 ORDINANCES AND CODES

WORK PERFORMED UNDER THIS CONTRACT SHALL, AT A MINIMUM, BE IN CONFORMANCE WITH APPLICABLE NATIONAL, STATE, AND LOCAL CODES HAVING JURISDICTION. EQUIPMENT FURNISHED AND ASSOCIATED INSTALLATION WORK PERFORMED UNDER THIS CONTRACT SHALL BE IN STRICT COMPLIANCE WITH CURRENT APPLICABLE CODES ADOPTED BY THE LOCAL AHJ INCLUDING ANY AMENDMENTS AND STANDARDS AS SET FORTH BY THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), UNDERWRITERS LABORATORIES (UL), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME), AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS (ASHRAE), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), AMERICAN SOCIETY OF TESTING MATERIALS (ASTM), AND OTHER NATIONAL STANDARDS AND CODES WHERE APPLICABLE. WHERE THE CONTRACT DOCUMENTS EXCEED THE REQUIREMENTS OF THEIR REFERENCED CODES, STANDARDS, ETC., THE CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE.

PROCURE AND PAY FOR PERMITS AND LICENSES REQUIRED FOR THE ACCOMPLISHMENT OF THE WORK HEREIN DESCRIBED. WHERE REQUIRED, OBTAIN, PAY FOR, AND FURNISH CERTIFICATES OF INSPECTION TO THE OWNER. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR VIOLATIONS OF THE LAW.

1.6 PROTECTION OF EQUIPMENT AND MATERIALS

STORE AND PROTECT FROM DAMAGE EQUIPMENT AND MATERIALS DELIVERED TO JOB SITE. COVER WITH WATERPROOF, TEAR-RESISTANT, HEAVY TARP OR POLYETHYLENE PLASTIC AS REQUIRED TO PROTECT FROM PLASTER, DIRT, PAINT, WATER, OR PHYSICAL DAMAGE. EQUIPMENT AND MATERIAL THAT HAS BEEN DAMAGED BY CONSTRUCTION ACTIVITIES WILL BE REJECTED, AND CONTRACTOR IS OBLIGATED TO FURNISH NEW EQUIPMENT AND MATERIAL OF A LIKE KIND AS APPROVED BY OWNER.

KEEP PREMISES CLEAN FROM FOREIGN MATERIAL CREATED DURING WORK PERFORMED UNDER THIS CONTRACT. PIPING, EQUIPMENT, ETC., SHALL HAVE A NEAT AND CLEAN APPEARANCE AT THE TERMINATION OF THE WORK.

PLUG OR CAP OPEN ENDS OF PIPING SYSTEMS WHILE STORED OR INSTALLED DURING CONSTRUCTION WHEN NOT IN USE THE PREVENT THE ENTRANCE OF DEBRIS INTO THE SYSTEMS.

1.7 SUBSTITUTIONS

THE BASE BID SHALL INCLUDE ONLY THE PRODUCTS FROM MANUFACTURERS SPECIFICALLY NAMED IN THE DRAWINGS AND SPECIFICATIONS. NO SUBSTITUTION WILL BE CONSIDERED PRIOR TO RECEIPT OF BIDS UNLESS WRITTEN REQUEST FOR APPROVAL TO BID HAS BEEN RECEIVED BY THE ENGINEER AT LEAST TEN CALENDAR DAYS PRIOR TO THE DATE FOR RECEIPT OF BIDS. EACH SUCH REQUEST SHALL INCLUDE THE NAME OF THE MATERIAL OR EQUIPMENT FOR WHICH IT IS TO BE SUBSTITUTED AND A COMPLETE DESCRIPTION OF THE PROPOSED SUBSTITUTE INCLUDING DRAWINGS, CUT PERFORMANCE AND TEST DATA AND OTHER INFORMATION NECESSARY FOR AN EVALUATION. A STATEMENT SETTING FORTH CHANGES IN OTHER MATERIALS, EQUIPMENT OR OTHER WORK THAT INCORPORATION OF THE SUBSTITUTE WOULD REQUIRE SHALL BE INCLUDED. THE BURDEN OF PROOF OF THE MERIT OF THE PROPOSED SUBSTITUTE IS UPON THE PROPOSER. THE ENGINEER'S DECISION OF APPROVAL OR DISAPPROVAL TO BID OF A PROPOSED SUBSTITUTION SHALL BE FINAL.

THE TERMS "APPROVED", "APPROVED EQUAL", AND "EQUAL" REFER TO APPROVAL BY THE ENGINEER AS AN ACCEPTABLE ALTERNATE BID. NO SUBSTITUTIONS WILL BE CONSIDERED THAT ARE NOT BID AS AN ALTERNATE. NO MATERIAL SUBSTITUTIONS SHALL BE CONSIDERED FOR APPROVAL PRIOR TO AWARD OF CONTRACT.

COORDINATE AND VERIFY WITH OTHER TRADES WHETHER OR NOT THE SUBSTITUTED EQUIPMENT CAN BE INSTALLED AS SHOWN ON THE CONSTRUCTION DRAWINGS WITHOUT MODIFICATION TO ASSOCIATED SYSTEMS OR ARCHITECTURAL OR ENGINEERING DESIGN. INCLUDE ADDITIONAL COSTS FOR ARCHITECTURAL AND ENGINEERING DESIGN FEES IN BID IF DRAWING MODIFICATIONS ARE REQUIRED BECAUSE OF SUBSTITUTED EQUIPMENT.

1.8 OPERATION AND MAINTENANCE INSTRUCTIONS

COLLECT AND COMPILE A COMPLETE BROCHURE OF FIXTURES, MATERIALS, AND EQUIPMENT FURNISHED AND INSTALLED ON THIS PROJECT. INCLUDE OPERATIONAL AND MAINTENANCE INSTRUCTIONS, MANUFACTURER'S CATALOG SHEETS, WIRING DIAGRAMS, PARTS LISTS, APPROVED SHOP DRAWINGS, AND DESCRIPTIVE LITERATURE FURNISHED BY THE MANUFACTURER. INCLUDE AN INSIDE COVER SHEET THAT LISTS THE PROJECT NAME, DATE, OWNER, ARCHITECT, ENGINEER, GENERAL CONTRACTOR, SUBCONTRACTOR, AND AN INDEX OF CONTENTS.

SUBMIT COPIES OF LITERATURE BOUND IN APPROVED BINDERS TO THE ARCHITECT AND OWNER AT THE TERMINATION OF THE WORK. PAPER CLIPS, STAPLES, RUBBER BANDS, AND MAILING ENVELOPES ARE NOT CONSIDERED APPROVED BINDERS. FINAL APPROVAL OF PLUMBING SYSTEMS WILL BE WITHHELD UNTIL THIS EQUIPMENT BROCHURE IS DEEMED COMPLETE BY THE ARCHITECT, ENGINEER, AND OWNER.

1.9 SPARE PARTS

FURNISH TO OWNER, WITH RECEIPT, THE SPARE PARTS TO INCLUDE FAUCET WASHERS AND O-RINGS, FLUSHOMETER REPAIR KITS, AND WATER CLOSET TANK REPAIR KITS FOR THE FIXTURES FURNISHED FOR THIS PROJECT.

1.10 WARRANTIES

WARRANT EACH SYSTEM AND EACH ELEMENT THEREOF AGAINST ALL DEFECTS DUE TO FAULTY WORKMANSHIP, DESIGN, OR MATERIAL FOR A PERIOD OF 12 MONTHS FROM DATE OF SUBSTANTIAL COMPLETION, UNLESS SPECIFIC ITEMS ARE NOTED TO CARRY A LONGER WARRANTY IN THE CONSTRUCTION DOCUMENTS OR MANUFACTURER'S STANDARD WARRANTY EXCEEDS 12 MONTHS. REMEDY ALL DEFECTS, OCCURRING WITHIN THE WARRANTY PERIOD(S), AS STATED IN THE GENERAL CONDITIONS AND DIVISION 1.

WARRANTIES SHALL INCLUDE LABOR AND MATERIAL. MAKE REPAIRS OR REPLACEMENTS WITHOUT ANY ADDITIONAL COSTS TO THE OWNER.

PERFORM THE REMEDIAL WORK PROMPTLY, UPON WRITTEN NOTICE FROM THE ENGINEER OR OWNER.

AT THE TIME OF SUBSTANTIAL COMPLETION, DELIVER TO THE OWNER ALL WARRANTIES, IN WRITING AND PROPERLY EXECUTED, INCLUDING TERM LIMITS FOR WARRANTIES EXTENDING BEYOND THE ONE YEAR PERIOD, EACH WARRANTY INSTRUMENT BEING ADDRESSED TO THE OWNER AND STATING THE COMMENCEMENT DATE AND TERM.

1.11 CUTTING AND PATCHING

PERFORM CUTTING OF WALLS, FLOORS, CEILINGS, ETC. AS REQUIRED TO INSTALL WORK UNDER THIS SECTION. OBTAIN PERMISSION FROM THE ARCHITECT PRIOR TO CUTTING. DO NO CUT OR DISTURB STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL FROM THE ARCHITECT. CUT HOLES AS SMALL AS POSSIBLE. GENERAL CONTRACTOR SHALL PATCH WALLS, FLOORS, ETC. AS REQUIRED BY WORK UNDER THIS SECTION. PATCHING SHALL MATCH THE ORIGINAL MATERIAL AND CONSTRUCTION. REPAIR AND REFINISH AREAS DISTURBED BY WORK TO THE CONDITION OF ADJOINING SURFACES IN A MANNER SATISFACTORY TO THE ARCHITECT.

1.12 ROUGH-IN

COORDINATE WITHOUT DELAY ROUGHING-IN WITH GENERAL CONSTRUCTION. CONCEAL PIPING AND CONDUIT ROUGH-IN EXCEPT IN UNFINISHED AREAS WHERE OTHERWISE SHOWN.

1.13 STRUCTURAL STEEL

STRUCTURAL STEEL USED FOR PIPE SUPPORTS, EQUIPMENT SUPPORTS, ETC., SHALL BE NEW, CLEAN, AND CONFORM TO ASTM DESIGNATION A-36.

SUPPORT PLUMBING AND MECHANICAL EQUIPMENT AND PIPING FROM THE BUILDING STRUCTURE. DO NOT SUPPORT PLUMBING EQUIPMENT FROM CEILINGS, OTHER MECHANICAL OR ELECTRICAL COMPONENTS, AND OTHER NON-STRUCTURAL ELEMENTS.

1.14 ACCESS DOORS

PROVIDE ACCESS DOORS IN CEILINGS AND WALLS WHERE INDICATED OR REQUIRED FOR ACCESS TO CONCEALED VALVES AND EQUIPMENT INSTALLED UNDER THIS SECTION. PROVIDE CONCEALED HINGES, SCREWDRIVER-TYPE LOCK, ANCHOR STRAPS; MANUFACTURED BY MILCOR, ZURN, TITUS, OR EQUAL. OBTAIN ARCHITECT'S APPROVAL OF TYPE, SIZE, LOCATION, AND COLOR BEFORE ORDERING.

1.15 PENETRATIONS

SEAL FLOOR, EXTERIOR WALL AND ROOF PENETRATIONS WATER AND WEATHER TIGHT WITH APPROPRIATE NON-SHRINK, NON-HARDENING COMMERCIAL CONSTRUCTION SEALANT. SEAL ROOF PENETRATIONS WITH FOUR POUND PER SQUARE FOOT LEAD FLASHING. PROVIDE A SLEEVE, AND SEAL NON-FIRE-RATED FLOOR AND WALL PENETRATIONS WITH FIBERGLASS PACKING AND SILICONE CAULK (FOR ACOUSTICAL INSULATION).

COORDINATE FIRE RATING REQUIREMENTS AND LOCATIONS WITH THE ARCHITECT. SEAL PENETRATIONS OF FIRE-RATED ASSEMBLIES WITH 3M #CP-25 FIRE BARRIER CAULK (PROVIDE THICKNESS AND METHOD AS REQUIRED AND RECOMMENDED BY MANUFACTURER) TO MAINTAIN THE FIRE RESISTANCE RATING OF FIRE-RATED ASSEMBLIES.

SEAL EXTERIOR WALL PENETRATIONS BELOW GRADE WITH CAST IRON WALL PIPES AND MODULAR MECHANICAL SLEEVE SEALS, MANUFACTURED BY THUNDERLINE/LINK SEAL, CALPICO, INC AND METRAFLEX.

PROVIDE SLEEVES FOR HORIZONTAL PIPE PASSING THROUGH OR UNDER THE FOUNDATION. SLEEVES SHALL BE CAST IRON SOIL PIPE TWO NOMINAL PIPE SIZES LARGER THAT THE PIPE SERVED.

PROVIDE SLEEVES FOR VERTICAL PIPE PASSING THROUGH SLAB ON GRADE. SLEEVES SHALL BE SCHEDULE 40 PVC PIPE, TWO NOMINAL PIPE SIZES LARGER THAN THE PIPE SERVED. SEAL WATER-TIGHT WITH SILICONE CAULK.

2. MATERIALS

2.1 DOMESTIC WATER PIPING

ABOVE AND BELOW GRADE WATER PIPING SHALL BE PEX TUBING CONFORMING TO ASTM F877 CROSS-LINKED POLYETHYLENE TUBING HOT AND COLD WATER DISTRIBUTION SYSTEMS, ASTM F876 CROSS-LINKED POLYETHYLENE TUBE, ASTM F1807 FITTING AND ASTM F2159 FITTINGS, COMPLY WITH NSF STANDARD 14 AND 61. PEX TUBING SHALL BE WATTS WATERPEX CROSS-LINKED POLYETHYLENE OR EQUAL. ALL PEX TUBING BELOW GRADE SHALL BE SLEEVED WITH PVC PIPE.

FITTINGS SHALL BE MECHANICAL CRIMP FITTINGS IN COMPLIANCE WITH ASTM F1807 AND F2159. PEX FITTINGS SHALL BE WATTS BRASS CRIMPRING FITTINGS USING EITHER WATTS COPPER CRIMPRING OR STAINLESS STEEL CINCHCLAMP OR EQUAL, INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

ABOVE AND BELOW GRADE WATER PIPING SHALL BE TYPE "L" AND "M" HARD DRAWN SEAMLESS COPPER TUBING CONFORMING TO ASTM B88.

COPPER UNIONS SHALL BE CAST-COPPER-ALLOY, HEXAGONAL-STOCK BODY, WITH BALL-AND-SOCKET, METAL-TO-METAL SEATING SURFACE AND SOLDER-JOINT. JOINING MATERIAL SHALL BE ASTM B813 WATER-FLUSHABLE, LEAD-FREE FLUX ALLOY SOLDER.

2.2 FILTERED WATER PIPING

ABOVE AND BELOW GRADE FILTERED WATER PIPING SHALL BE CPVC TUBING CONFORMING TO ASTM D2846 AND CSA B137 CHLORINATED POLY (VINYL CHLORIDE) PLASTIC HOT AND COLD WATER DISTRIBUTION SYSTEMS, ASTM D1784 RIGID AND CHLORINATED PVC COMPOUNDS, ASTM F493 SOLVENT CEMENTS, COMPLY WITH NSF STANDARD 14 AND 61. CPVC TUBING SHALL BE FLOWGUARD GOLD CPVC CTS OR EQUAL.

FITTINGS SHALL BE SOCKET TYPE JOINTS IN COMPLIANCE WITH ASTM D2846 AND CSA B137. CPVC FITTINGS SHALL BE FLOWGUARD GOLD CPVC CTS FITTINGS OR EQUAL. JOINING MATERIAL SHALL BE ASTM F493 SOLVENT CEMENT, INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

ABOVE AND BELOW GRADE FILTERED WATER PIPING SHALL BE TYPE "L" AND "M" HARD DRAWN SEAMLESS COPPER TUBING CONFORMING TO ASTM B88.

COPPER UNIONS SHALL BE CAST-COPPER-ALLOY, HEXAGONAL-STOCK BODY, WITH BALL-AND-SOCKET, METAL-TO-METAL SEATING SURFACE AND SOLDER-JOINT. JOINING MATERIAL SHALL BE ASTM B813 WATER-FLUSHABLE, LEAD-FREE FLUX ALLOY SOLDER.

2.3 SOIL, WASTE, AND VENT PIPING

ABOVE AND BELOW GRADE SOIL, WASTE, AND VENT PIPING SHALL BE PVC PLASTIC, SCHEDULE 40 DWV PIPE CONFORMING TO ASTM D2665 WITH PLAIN ENDS. CELLULAR (FOAM) CORE PVC NOT ALLOWED. INSTALL PER ASTM D2665 AND ASTM D2321.

FITTINGS SHALL BE PVC SOCKET-TYPE DWV PIPE FITTINGS; ASTM D2665 MADE TO ASTM D3311 DRAIN, WASTE, AND VENT PATTERNS.

ABOVE AND BELOW GRADE SOIL, WASTE, AND VENT PIPING SHALL BE HUB-AND-SPIGOT CAST-IRON SOIL PIPE AND FITTINGS CONFORMING TO ASTM A74 WITH ASTM C564 RUBBER GASKETS. INSTALL CAST-IRON SOIL PIPING ACCORDING TO CISPI'S "CAST IRON SOIL PIPE AND FITTINGS HANDBOOK" CHAPTER IV, "INSTALLATION OF CAST IRON SOIL PIPE AND FITTINGS".

ABOVE GRADE SOIL, WASTE, AND VENT PIPING SHALL BE ALLOWED TO BE COPPER DRAINAGE TUBING CONFORMING TO ASTM B306 AT PLUMBING CONTRACTOR'S OPTION.

2.4 INDIRECT AND CONDENSATE DRAIN LINES

PROVIDE HARD DRAWN, TYPE "M" OR "L" COPPER PIPE FOR ALL CONDENSATE DRAIN PIPING FROM COOLER AND FREEZER EVAPORATORS. PROVIDE HEAT TRACE FOR ALL CONDENSATE DRAIN PIPING LOCATED IN FREEZERS, AND ROUTE TO FLOOR DRAIN IN BUILDING.

PROVIDE PVC PIPE FOR ALL OTHER INDIRECT AND CONDENSATE DRAIN PIPING FROM HVAC, PLUMBING, AND BEVERAGE EQUIPMENT, AND ROUTE TO FLOOR DRAIN IN BUILDING.

2.5 GAS PIPING

GAS PIPING SHALL BE SCHEDULE 40 BLACK CARBON STEEL CONFORMING TO ASTM A53. PIPING 2" AND SMALLER SHALL BE WELDED OR THREADED WITH MALLEABLE IRON FITTINGS. PIPING 2-1/2" AND LARGER SHALL BE WELDED WITH BUTT-WELDED FITTINGS.

FITTINGS SHALL CONFORM TO ASME B16.3, MALLEABLE IRON OR ASTM A234, FORGED STEEL WELDED TYPE.

PROVIDE SHUT-OFF VALVE, DIRT LEG, AND UNION AT EACH ROOFTOP UNIT. PAINT ALL GAS PIPING EXPOSED TO WEATHER WITH ONE COAT OF PRIMER, AND TWO COATS OF RUST-PROOF PAINT. COLOR SHALL MATCH BUILDING COLORS. COORDINATE WITH OWNER'S CONSTRUCTION MANAGER.

PROVIDE TREATED WOOD BLOCKING 6X6X12, 8'-0" OC MAX WITH GALVANIZED PIPE STRAP, 1 1/4" ZINC COATED LAG SCREWS, AND RUBBER WALKPAD ADHERED TO ROOF.

2.6 FLASHING

SHEET LEAD, 4 POUNDS PER SQUARE FOOT, MINIMUM.

2.7 INSULATION

2.7.1 DOMESTIC COLD WATER (WITHIN BUILDING)

COPPER PIPING: 1/2" WALL ONE-PIECE FIBERGLASS COVERING HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 WITH FIRE RESISTANT JACKET WITH SELF-SEALING LAP TO PROVIDE A CONTINUOUS VAPOR BARRIER BY CERTAINTEED, OWENS-CORNING, OR ARMSTRONG. (SEE BELOW FOR PLUMBING FITTING INSULATION REQUIREMENTS.)

PEX TUBING: NO INSULATION REQUIRED.

EXCEPTION: FOR NON-RECIRCULATING HOT WATER SYSTEM, PROVIDE 1/2" WALL ONE-PIECE FIBERGLASS COVERING HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 WITH FIRE RESISTANT JACKET WITH SELF-SEALING LAP TO PROVIDE A CONTINUOUS VAPOR BARRIER BY CERTAINTEED, OWENS-CORNING, OR ARMSTRONG ON THE FIRST 8 FEET OF INLET PIPING AT WATER HEATER.

CPVC TUBING: NO INSULATION REQUIRED.

2.7.2 DOMESTIC HOT WATER

COPPER PIPING: 1/2" WALL ONE-PIECE FIBERGLASS COVERING HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 WITH FIRE RESISTANT JACKET WITH SELF-SEALING LAP TO PROVIDE A CONTINUOUS VAPOR BARRIER BY CERTAINTEED, OWENS-CORNING, OR ARMSTRONG. (SEE BELOW FOR PLUMBING FITTING INSULATION REQUIREMENTS.)

PEX TUBING: 1/2" WALL ONE-PIECE FIBERGLASS COVERING HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 WITH FIRE RESISTANT JACKET WITH SELF-SEALING LAP TO PROVIDE A CONTINUOUS VAPOR BARRIER BY CERTAINTEED, OWENS-CORNING, OR ARMSTRONG. (SEE BELOW FOR PLUMBING FITTING INSULATION REQUIREMENTS.)

FOR HOT WATER PIPING BEING SERVED BY SYSTEM WITH RECRICULATING PUMP, PROVIDE 1" WALL ONE-PIECE FIBERGLASS COVERING HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 WITH FIRE RESISTANT JACKET WITH SELF-SEALING LAP TO PROVIDE A CONTINUOUS VAPOR BARRIER BY CERTAINTEED, OWENS-CORNING, OR ARMSTRONG. (SEE BELOW FOR PLUMBING FITTING INSULATION REQUIREMENTS.)

2.7.3 INDIRECT AND CONDENSATE DRAIN PIPING (WITHING BUILDING)

COPPER PIPING: PROVIDE 1" FLEXIBLE UNICELLULAR INSULATION BY ARMACELL.

PVC PIPING: NO INSULATION REQUIRED.

FOR PIPING AT HANGERS, PROVIDE 8" LONG SECTIONS OF HIGH DENSITY, HIGH TEMPERATURE CALCIUM SILICATE BY JOHNS-MANVILLE, FIBERGLASS BY KNAUF, OR 8" LONG STYROFOAM BILLETS BY DOW. INSULATION SHALL BE CONTINUOUS ALONG THE PIPE SURFACE, EXCEPT AT VALVES, UNIONS, AND WHERE PIPING IS EXPOSED AT FIXTURES.

FOR HOT AND COLD WATER PIPING EXPOSED, CONCEALED IN WALLS, AND/OR INSTALLED INSIDE MASONRY UNITS OF WALLS, COVER FITTINGS WITH ZESTON, KNAUF, OR EQUAL ONE-PIECE PVC PREMOLDED INSULATING COVERS. FITTING COVERS, JACKETS, AND ADHESIVES SHALL NOT EXCEED FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPMENT RATING OF 50 PER ASTM E84. AT ALL ELBOWS AND TEES, FILL VOIDS BETWEEN COVERS AND PIPING WITH FIBERGLASS INSULATION AND TAPE JOINTS. INSTALL PIPE INSULATION IN COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS. WHERE PREMOLDED INSULATING FITTINGS ARE NOT APPROVED BY LOCAL AUTHORITIES, MITER INSULATION AT FITTINGS.

3. PIPING INSTALLATION

GENERAL: CLEAN PIPE THOROUGHLY PRIOR TO INSTALLATION. REAM ENDS OF PIPE TO REMOVE BURRS. CUT PIPE ACCURATELY TO MEASUREMENTS TAKEN ON THE JOB. INSTALL WITH ADEQUATE CLEARANCE FOR INSTALLATION OF COVERINGS WHERE REQUIRED. PIPE SHALL NOT BE SPRUNG OR BENT. NEATLY ALIGN PIPE, CONNECT IT SECURELY, AND SUPPORT IT FROM THE BUILDING, AND SUPPORT IT FROM THE BUILDING STRUCTURE WITH HANGERS AS SPECIFIED BELOW. PROVIDE CHROME-PLATED ESCUTCHEONS ON PIPES PASSING THROUGH CEILINGS, FLOORS, OR WALLS OF FINISHED SPACES. RUN PIPES FREELY THROUGH FLOOR AND WALL PENETRATIONS USING PIPE SLEEVES. DO NOT GROUT IN PLACE UNLESS REQUIRED FOR STRUCTURAL FIRE INTEGRITY. INSTALL PIPE CONCEALED IN FINISHED SPACES WHEREVER POSSIBLE. USE A DIELECTRIC UNION WHERE FERROUS AND COPPER PIPE CONNECT. DIELECTRIC UNION SHALL HAVE A ZINC STEEL BODY, A THREADED NYLON INSERT, AND INSULATION PRESSURE GASKET. NO FERROUS METAL-TO-COPPER CONNECTION MADE WITHOUT INSULATING UNIONS WILL BE ALLOWED.

HANGERS & SUPPORTS: PIPE HANGERS SHALL BE AS DESCRIBED IN THE SPECIFICATIONS BY B-LINE OR EQUAL BY ANVIL, MICHIGAN, TRUSCON, OR UNISTRUT. CONNECT HANGERS TO THE STRUCTURE WITH SIDE BEAM CONNECTORS AND ALL THREAD HANGER RODS. PROVIDE ENGINEERED SUPPORT STRUTS BETWEEN JOISTS AND OTHER STRUCTURAL MEMBERS AS REQUIRED TO PROVIDE A RIGID HANGING.

DOMESTIC WATER: ARRANGE COLD, HOT, AND HOT WATER RECIRCULATION PIPING TO DRAIN AT THE LOWEST POINT IN EACH SYSTEM. INSTALL AT LEAST ONE PIPE UNION ADJACENT TO ALL SHUT-OFF VALVES, AT CONNECTION POINT OF EACH PIECE OF EQUIPMENT, AND ELSEWHERE IN THE SYSTEM WHERE REQUIRED TO ALLOW PROPER MAINTENANCE. PROVIDE UNIONS OF THE GROUND JOINT TYPE. MAKE ALLOWANCE FOR EXPANSION AND CONTRACTION WHERE REQUIRED BY THE INSTALLATION. WHERE WATER PIPING OCCURS IN EXTERIOR WALLS, HOLD PIPE AS CLOSE AS POSSIBLE TO THE INTERIOR FACE OF THE WALL AND INSTALL INSULATION BATT OR OTHER INSULATION (MINIMUM R-8) BETWEEN PIPING AND THE EXTERIOR WALL FACE.

4. EXTERIOR UTILITY CONNECTIONS

TERMINATE DOMESTIC WATER, STORM, AND SEWER LINES AT A POINT APPROXIMATELY FIVE FEET FROM THE BUILDING WALL, OR AS SHOWN ON THE DRAWINGS. MAKE CONNECTION TO THE VARIOUS SERVICES PROVIDED BY OTHERS AND COORDINATE CONNECTION REQUIREMENTS WITH CIVIL ENGINEER. VERIFY THAT INSTALLATION WILL TIE INTO THE VARIOUS SERVICE PROVIDED BY OTHERS AT THE INDICATED INVERT ELEVATION POINT PRIOR TO INSTALLATION. IF THE INSTALLATION WILL NOT TIE INTO THE INDICATED INVERT ELEVATION POINT WHILE MAINTAINING PROPER FALL, NOTIFY THE ARCHITECT AND CIVIL ENGINEER SO THAT AN ALTERNATIVE MAY BE DETERMINED.

PROVIDE SERVICE PIPING AND ACCESSORIES REQUIRED TO COMPLETE UTILITY CONNECTIONS THAT ARE NOT FURNISHED BY THE SERVING UTILITY.

5. TESTING AND INSPECTION

UPON COMPLETION OF EACH PHASE OF THE INSTALLATION, TEST EACH SYSTEM IN CONFORMANCE WITH LOCAL CODE REQUIREMENTS AND AS NOTED BELOW. FURNISH LABOR AND EQUIPMENT REQUIRED TO TEST PLUMBING WORK INSTALLED UNDER THIS CONTRACT, AND ASSUME COSTS INVOLVED IN MAKING THE TESTS, AND REPAIRING AND/OR REPLACING DAMAGE RESULTING THEREFROM.

NOTIFY THE ARCHITECT AND AUTHORITY HAVING JURISDICTION, THREE (3) WORKING DAYS PRIOR TO MAKING PLUMBING SYSTEM TESTS. LEAVE CONCEALED WORK UNCOVERED UNTIL THE REQUIRED TESTS HAVE BEEN COMPLETED, BUT IF NECESSARY DUE TO CONSTRUCTION PROCEDURE, TESTS ON PORTIONS OF THE WORK MAY BE MADE, AND WHEN SATISFACTORY, THE WORK MAY BE CONCEALED. TEST PIPING BEFORE INSULATION IS INSTALLED, AND BEFORE BACKFILL. PIPES, JOINTS, FLANGES, VALVE STEMS, ETC., SHALL BE LEAK TIGHT. REPAIR OR REPLACE SYSTEM DEFECTS WITH NEW MATERIALS. CAULKING OF DEFECTIVE JOINTS, CRACK OR HOLES WILL NOT BE PERMITTED. REPEAT TESTS AFTER DEFECTS HAVE BEEN ELIMINATED. MAKE TESTS IN THE PRESENCE OF THE ADMINISTRATIVE AUTHORITY AND/OR THE OWNER'S AUTHORIZED REPRESENTATIVE.

WORK SHALL BE INSPECTED FOR COMPLIANCE WITH CODES, ORDINANCES, REGULATIONS, AND ADHERENCE TO CONTRACT DOCUMENTS. PLUMBING CONTRACTOR SHALL SUPPLY OWNER WITH SIGNED FORMS OR PROOF OF ACCEPTANCE BY THE LOCAL AUTHORITY BEFORE CONTINUING FROM ONE STAGE TO ANOTHER. FINAL APPROVAL SHALL BE OBTAINED BEFORE FINAL PAYMENT IS MADE ON THE CONTRACT.

6. GUARANTEE

THE WORK TO BE PERFORMED UNDER THIS CONTRACT SHALL INCLUDE THE FURNISHING, INSTALLATION, AND CONNECTION OF PLUMBING SYSTEMS INDICATED ON TEH DRAWINGS AND IN THE SPECIFICATIONS. BY SIGNING THE CONTRACT, THE PLUMBING CONTRACTOR ACKNOWLEDGES THAT HE HAS ACQUAINTED HIMSELF WITH THE SITE AND THE EXISTING CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED, AND THE DRAWINGS AND SPECIFICATIONS PERTAINING THERETO, AND HE INDICATES THAT HE WILL COMPLY WITH THE REQUIREMENTS AND INTENT OF PERTINENT DOCUMENTS IN THE PERFORMANCE OF THE WORK.

PLUMBING GENERAL NOTES

1. NOTES APPLY TO ALL PLUMBING SHEETS.
2. EACH CONTRACTOR IS RESPONSIBLE FOR HAVING THOROUGH KNOWLEDGE OF ALL DRAWINGS AND SPECIFICATIONS AS THEY RELATE TO THIS WORK. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED DUE TO LACK OF THIS KNOWLEDGE.
3. PROVIDE ALL MATERIALS FOR A COMPLETE INSTALLATION IN ALL RESPECTS READY FOR INTENDED USE AND IN STRICT ACCORDANCE WITH STATE AND LOCAL CODES AND MANUFACTURER'S RECOMMENDATIONS. OBTAIN AND PAY FOR ALL PERMITS REQUIRED BY THIS WORK.
4. EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
5. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF WORK. REVIEW THE GENERAL NOTES AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY THE ARCHITECT OR OWNER'S CONSTRUCTION MANAGER OF ANY CONFLICTS OR DISCREPANCIES.
6. PROVIDE A CONSTRUCTION RECORD SET OF "AS-BUILT" DOCUMENTS TO THE ARCHITECT OR OWNER'S CONSTRUCTION MANAGER REFLECTING ANY VARIANCES OF INSTALLED PIPING LOCATIONS OR EQUIPMENT CONTRARY TO THE CONSTRUCTION DOCUMENTS.
7. PROVIDE TO THE ARCHITECT OR OWNER'S CONSTRUCTION MANAGER A COPY OF INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS.
8. PLANS AND SPECIFICATIONS GOVERN WHERE THEY EXCEED CODE REQUIREMENTS.
9. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF PLUMBING FIXTURES.
10. DO NOT SCALE FLOOR PLANS FOR EXACT HORIZONTAL LOCATION OF PIPE ROUTING.
11. INSTALL CONCEALED PIPING TIGHT TO THE STRUCTURE AND AS HIGH AS POSSIBLE. INSTALL EXPOSED PIPING TIGHT TO THE STRUCTURE, WALL OR CEILING AND AS HIGH AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE LOCATIONS OF PIPING IN EXPOSED AREAS WITH ARCHITECT.
12. COORDINATE PIPING INSTALLATION WITH STRUCTURAL GRADE BEAMS, FOOTINGS, COLUMN PIERS, ETC. SLEEVE PIPING THROUGH GRADE BEAMS, FOOTINGS, ETC. WHERE REQUIRED AND AS NOTED ON PLANS.
13. COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS. DO NOT INSTALL PIPING OVER ELECTRICAL PANELS.
14. COORDINATE SEWER AND WATER CONNECTIONS WITH CIVIL AND AHJ. PROVIDE PRESSURE REDUCING VALVE AND BACKFLOW PREVENTER AS SHOWN OR REQUIRED BY AHJ. VERIFY INVERT AND SLOPE OF INCOMING SANITARY SEWER BEFORE TRENCHING.
15. REFER TO RISER DIAGRAMS AND PLUMBING FIXTURE SCHEDULE FOR ALL PIPING AND PIPE SIZES NOT SHOWN ON PLAN.
16. SANITARY AND STORM SEWER PIPING SHOWN IS BASED ON 1/4" PER FOOT FALL FOR ALL PIPE SMALLER THAN 3" DIAMETER AND 1/8" PER FOOT FALL FOR PIPE 3" DIAMETER AND LARGER.
17. ALL SEWER PIPING BELOW SLAB TO BE 2" DIAMETER MINIMUM.
18. PROVIDE ACCESS DOORS TO ALL CONCEALED VALVES AND CLEAN-OUTS; AND NOT ABOVE AN ACCESSIBLE CEILING.
19. PROVIDE TRAP GUARDS OR TRAP SEAL PRIMERS AND 1/2" COPPER TUBING CONNECTION TO ALL FOOR DRAINS AS SHOWN OR AS REQUIRED BY AHJ. CONTRACTOR SHALL VERIFY REQUIREMENTS.
20. INSTALL VTR'S, EXHAUST FANS, AND FLUES A MINIMUM 5'-0" FROM PARAPET OR OUTSIDE WALL AND 10'-0" FROM EQUIPMENT WITH OUTSIDE AIR INTAKE.
21. PROVIDE INSULATION ON HOT AND COLD WATER PIPING, ROOF DRAIN BODIES, AND HORIZONTAL ROOF DRAIN PIPING.
22. INSTALL WATER PIPE ON INSIDE OF EXTERIOR WALL INSULATION TO PREVENT FREEZING.
23. WHEN DEEP FROST LOCATIONS ARE ENCOUNTERED, ROUTE SANITARY LINES UNDER BUILDING AS MUCH AS POSSIBLE.
24. PROVIDE PVC SLEEVE FOR ALL COLD/HOT WATER FLOOR PIPE PENETRATIONS. MAKE SLEEVE LARGE ENOUGH FOR INSULATION. SEAL WITH GRAY MASTIC AND ENSURE OF NO WATER PENETRATIONS.
25. PROVIDE FIRE SEAL WHERE PIPES PENETRATE FIRE RATED ASSEMBLY.
26. PROVIDE AND INSTALL WATTS 8A VACUUM BREAKER ON ANY THREADED EXTERIOR OR INTERIOR FAUCETS.
27. VALVES SHALL BE LINE SIZE UNLESS NOTED OTHERWISE.
28. ALL WATER SHUT-OFF VALVES SHALL BE "BALL LOCK" TYPE. PROVIDE SHUT-OFF VALVES AT EACH TERMINATION PONT OF ASSOCIATED EQUIPMENT.
29. WATER HAMMER ARRESTORS SHALL BE SIZE "A" UNLESS NOTED OTHERWISE. PROVIDE WATER HAMMER ARRESTORS AS REQUIRED BY AHJ AND/OR CODE OR AS RECOMMENDED BY EQUIPMENT MANUFACTURERS.
30. CLEAN FAUCET AERATORS AND PIPE STRAINERS PRIOR TO TURNING BUILDING OVER TO THE OWNER.
31. FIELD ADJUST WATER CLOSET FLUSHING MECHANISM FOR PROPER FLUSHING OPERATION.
32. PROVIDE SEISMIC BRACING BASED ON APPROPRIATE SEISMIC ZONE REQUIREMENTS PER LOCAL AND NATIONAL CODES. CONTRACTOR'S RESPONSIBILITY INCLUDES STRUCTURAL ENGINEER'S CERTIFICATION ON DETAILS SUBMITTED FOR PERMITTING.

PLUMBING SYMBOLS

(SYMBOLS APPLY ONLY WHEN USED ON DRAWINGS)

SYMBOL	DESCRIPTION
	DOMESTIC COLD WATER (CW)
	DOMESTIC HOT WATER (HW)
	DOMESTIC HOT WATER RETURN (HWR)
SS	SANITARY SEWER (SS)
GW	GREASE WASTE (GW)
FW	FILTERED WATER (FW)
RO	REVERSE OSMOSIS WATER (RO)
A	COMPRESSED AIR (A)
V	VENT (V)
T	TEPID WATER (T)
110	TEMPERED WATER (110°F)
G	NATURAL GAS (G)
LP	LIQUID PROPANE (LP)
CD	CONDENSATE (CD)
	PIPE: RISE / FALL / TEE DOWN
	SHUT-OFF VALVE (SOV)
	SHUT-OFF VALVE IN VERTICAL
	UNION
	CAP
	VACUUM RELIEF VALVE
	FLOOR CLEANOUT (FCO)
	FLOOR DRAIN, ROUND (FD)
	FLOOR DRAIN, SQUARE (FD)
	FLOOR SINK (FS), FULL / HALF GRATE
	CHECK VALVE
	DOUBLE CHECK VALVE
	REDUCED PRESSURE ZONE (RPZ)
	GAS PRESSURE REGULATOR
	GAS VALVE
	AUTOMATIC GAS VALVE
	FREEZE PROOF WALL HYDRANT (FPWH)
	HOSE BIBB (HB)
	WALL CLEANOUT (WCO)
	PUMP
	EXISTING ITEMS TO BE REMOVED OR RELOCATED (SHOWN HATCHED AND NOTED)
ANNOTATION	
X	PLAN KEYNOTE
XXX	PLUMBING EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
	CONNECTION POINT OF NEW WORK TO EXISTING
1 / M1.1.1	DETAIL REFERENCE: UPPER NUMBER INDICATES DETAIL NUMBER, LOWER NUMBER INDICATES SHEET NUMBER
1 / M1.1.1	SECTION CUT DESIGNATION

ABBREVIATIONS

3CS	THREE-COMPARTMENT SINK
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
BAS	BUILDING AUTOMATION SYSTEM
BFF	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTER
EC	ELECTRICAL CONTRACTOR
ETR	EXISTING TO REMAIN
EW	EYE WASH
EWC	ELECTRIC WATER COOLER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FS	FLOOR SINK
FPWH	FREEZE PROOF WALL HYDRANT
GC	GENERAL CONTRACTOR
IN WC	INCHES OF WATER COLUMN
HB	HOSE BIBB
HS	HAND SINK
I.E.	INVERT ELEVATION
MAX	MAXIMUM
MBH	1000 BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MFR	MANUFACTURER
MHB	MIXING HOSE BIBB
MIN	MINIMUM
MS	MOP SINK
OA	OUTSIDE AIR
PC	PLUMBING CONTRACTOR
PS	PREP SINK
RC	REFRIGERATION CONTRACTOR
REF	REFERENCE
RH	RADIANT HEATER
RPZ	REDUCED PRESSURE ZONE
RTU	ROOF TOP UNIT
SOV	SHUT-OFF VALVE
TYP	TYPICAL
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
VBF	VENT BELOW FLOOR
VBG	VENT BELOW GRADE
VTR	VENT THRU ROOF
WC	WATER CLOSET
WH	WATER HEATER

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Submissions:

DATE: PHASE
2018.04.19 - ISSUED PERMIT SET

CITY OF KEY WEST - WICKER'S FIELD ATHLETIC TRAILERS

1435 KENNEDY DRIVE; KEY WEST, FL 33040

PLOTTED: 4/18/2018 4:37 PM

Drawing Size	Project #: 18038
Drawn By: NC	Checked By: AA

Title: PLUMBING NOTES AND SPECIFICATIONS

Sheet Number: P0.1.1

Date: 04/19/2018

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J:\2018\18038 - City of Key West - Wickers Field Athletic Trailers\4-CDs\Drawings\Plumb\PLUMB SHEET SET.dwg, 4/18/2018 4:37 PM, scale: 1'-0" = 1'-0", erica poole

STRUCTURAL NOTES:

1010 GENERAL
Structural Drawings are to be used with Specifications, Architectural, Mechanical, Electrical, Plumbing, and Site Drawings as a part of the Contract Documents. Consult these drawings for features and details not shown on the Structural Drawings. Drawing discrepancies must be brought to the attention of the Engineer before proceeding. Dimensions and conditions must be verified in the field.

The structure is designed to be stable and self supporting when complete. It is the Contractor's responsibility to determine means and methods of construction to provide stability for the building and its components during erection. This includes any temporary bracing, shoring, guys, or tiedowns.

1050 DESIGN LOADS
The structural design for this building is in accordance with the Florida Building Code, 2017,6th Edition.

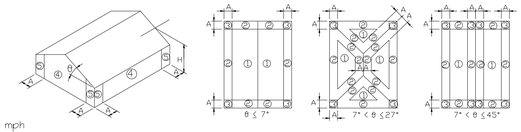
The following loadings have been used:

LIVE LOADS:
Floor . . . . . 40 psf
Stairs . . . . . 40 psf
Roof . . . . . 20 psf

DEAD LOADS (superimposed):
Floor . . . . . 20 psf
Roof . . . . . 20 psf

WIND LOADS:
Applied per ASCE 7-10
Building Risk Category II
Ultimate Wind Speed . . . . . 180 mph
Nominal Wind Speed . . . . . 139 mph
Exposure D
Int Pressure GCpi . . . . . (+0.18/-0.18)
Enclosed Building

COMPONENT AND CLADDING LOADING DIAGRAM



ALLOWABLE STRESS DESIGN PRESSURES (psf)

EFFECTIVE WIND AREA (FT²)	WALL PRESSURES				ROOF PRESSURES							
	4		5		1		2		3		OH 1&2	OH 3
	INTERIOR ZONE		END ZONE		INTERIOR ZONE		END ZONE		CORNER ZONE		OVERHANG ZONE	OVERHANG ZONE
10	+58	-63	+58	-78	+33	-53	+33	-42	+33	-136	-117	-190
20	+55	-62	+55	-73	+31	-52	+31	-85	+31	-127	-117	-171
50	+53	-57	+53	-65	+26	-50	+26	-75	+26	-114	-117	-151
100	+50	-53	+50	-60	+24	-48	+24	-68	+24	-107	-117	-132

End Zones = 1.75 Feet Guest Suite 3.41' Main House

2340 AUGERCAST CONCRETE PILES - Alternate
Piles shall be 16" round minimum 3 feet into cap rock. Reinforce with per schedule.

3120 SHORING
Shores are to remain in place until the concrete has reached 2/3 of the 28 design strength. Shoring and reshoring shall be in accordance with ACI 301 and 347.

3210 REINFORCING STEEL
Steel shall be clean deformed bar, ASTM A615 Grade 60. Fabricate and place steel in accordance with ACI Manual of Standard Practice and ACI 318-08 unless noted otherwise.

Specified concrete cover unless noted otherwise for reinforcement shall be:

Cast against earth 3"
Exposed to weather 2"
Slabs, walls, joists $\frac{3}{4}$"
Beams, columns $1\frac{1}{2}$"

CONCRETE NOT EXPOSED TO WEATHER AND CAST OVER 6 MIL VAPOR BARRIER
SLABS AND WALLS 3/4"
BEAMS AND GIRDER TIES 1-1/2"
COLUMN TIES 1-1/2"

3320 CONCRETE
Concrete shall be an approved mix design to achieve a compressive strength at 28 days, as scheduled below, placed in accordance with ACI standards and specifications. Mixes batched over 90 minutes before final placing shall not be used. Mix designs with coarse aggregate of 3/8" (#834) or smaller may not be used.

Slabs on grade 3000 psi. 4000psi
All other structural concrete . . . . . 5000 psi

Mix design; shall comply with ACI 318-08, Exposure categories F0, S0, P0, C1. Admixtures with calcium chlorides will not be accepted. The concrete shall comply with the requirements of ASTM C94 for measuring, mixing, and transporting.

All slabs are to be cured using a curing compound meeting the requirements of ASTM C309. The contractor must verify the curing compound is compatible with subsequent concrete covering products. The compound is to be placed as soon as the finishing is completed. Scuffed or exposed areas of the membrane are to be recoated.

3600 EPOXY ANCHORS
Epoxy anchors shall be an equal two part epoxy polymer cartridge injection system Powers PE 1000+ or Engineer approved substitution. Embedment shall be 9 bar diameters or 6" minimum unless noted otherwise, installed in accordance with the manufacturer's instructions. Installers shall be trained by the manufacturer's representative. Uphand installation is not approved for this product.

4200 MASONRY
Concrete masonry units shall be in accordance with ASTM C90, 1,900 psi on the net area, f'm = 1,500 psi. Mortar shall be ASTM C270, Type M or S. Grout shall meet ASTM C476, 2,000 psi minimum compressive strength.
Masonry units shall be grout filled with vertical reinforcing at corners, intersections, each side of openings over 4 feet wide, and as shown on the plans. Provide hooked dowels in footings for vertical reinforcing above. Lap splices for reinforcing in masonry is 48 bar diameters. Provide 9 gage ladder type galvanized horizontal joint reinforcing at every other block course.

4210 TIE BEAMS
Beams prefixed with TB- shall have concrete placed after masonry below is in place. Vertical reinforcing shall be continuous through tie beams. Provide hooked vertical reinforcing in tie beams for roof tie beams less than 16" deep. Tie beam reinforcing shall be continuous, 20" lap minimum, and includes corner bars. Use metal lath or non-aluminum screening to confine the concrete in the tie beams.

4220 LINTELS
Masonry openings up to 8 feet wide may be spanned with precast lintels unless noted otherwise as manufactured by Cast Crete Corp. Type 8FB-1B/1T or engineer approved substitution. Openings up to 16 feet wide may be spanned with a cast in place 8" by 16" concrete beam with (2) #5 reinforcing bars top and bottom unless noted otherwise. Lintels shall bear 8" minimum on each end.

5720 RAILINGS
The railing system and its connections to the building shall be designed for a 200lb. load at the top of the rail and in accordance with the Florida Building Code, 2010, Section 1607.7.

TIE COLUMN SCHEDULE

ALL DIMENSIONS ARE MINIMUM
SOME TIE COLUMNS MAY BE LARGER.

ALL DETAILS MAY NOT BE USED ON THIS SET OF DRAWINGS

C-1

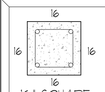
24"ø AUGER PILE W/(6)-#6's & #3 HOOPS @ 6" O.C.

C-2

12" SQUARE COLUMN, W/ (4)-#5's & #3 TIES @ 12" O.C.

C-3

8" SQUARE COLUMN, W/ (4)-#4's & #3 TIES @ 8" O.C.

C-4


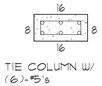
16" SQUARE COLUMN W/(4)-#7's & #3 TIES @ 8" O.C.

C-5

TIE COLUMN W/ (6)-#5's & #3 TIES @ 12" O.C.

C-6

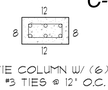
4"x4" x 3/8" HSS W/ 8"x1/2" SQ. WELDED T&B PLATES± 1/4" FILLET (4) ½" BOLTS T&B. GALVANIZE ALL @ EXTERIOR

C-7


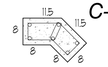
TIE COLUMN W/ (6)-#5's & #3 TIES @ 12" O.C.

C-8

FYPON PP8x12OA PORCH POST W/SIMPSON THREADED ROD TIE DOWN-THRU CENTER SYSTEM

C-9


TIE COLUMN W/ (6)-#5's & #3 TIES @ 12" O.C.

C-10


TIE COLUMN W/ (6)- #5's & #3 TIES @ 12" O.C.

C-11

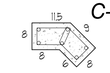
16"ø SONO TUBE W/(4)-#5's & #3 HOOPS @ 12" O.C.

C-12

4"x4"x5/16"SQUARE TUBE W/ 8"x1/2" SQ. WELDED T&B PLATES± 1/4" FILLET (4) 5/8" x6" ANCHOR OR EPOXY BOLTS T&B.

C-13

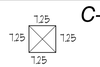
TIE COLUMN W/ (8)-#5's & #3 TIES @ 12" O.C.

C-14


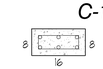
TIE COLUMN W/ (6)-#5's & #3 TIES @ 12" O.C.

FILLED CELL

FILLED CELL, W/ MIN. (1)-#5 POURED SOLID AT EACH END OF WINDOW & DOOR OPENING AND @ 32" O.C.

C-15


8x8 NOMINAL WOOD COLUMN

C-16


TIE COLUMN W/ (6)-#5's & #3 TIES @ 12" O.C.

NOTES:
1. ALL TIE COLUMNS SHOWN ARE ABOVE TRUSS OR SLAB
2. ALL EXPOSED STEEL TO BE HOT DIP GALVANIZED.

CONCRETE BEAM SCHEDULE

MARK	SIZE (WxH)	TOP	MID	BOT	HOOPS/NOTES
B1	8 x 12	(2) #5		(2) #5	#3 STIRRUPS @ 8" O.C.
B2	8 x 16	(2) #5		(2) #5	#3 STIRRUPS @ 8" O.C.
B3	8 x 30	(2) #6		(2) #6	#3 STIRRUPS @ 8" O.C.
B4	12 x 20	(3) #5		(3) #5	#3 STIRRUPS @ 8" O.C.
B5	8X8	(2) #5			

BEAM NOTES:

BEAM OVER CMU WALLS TO BE 7 ⅝" WIDE.
ANCHOR TOP STEEL INTO END BEAM 24" MIN. AT CORNERS.
PROVIDE A 24"x 24" #5 CORNER FOR EACH TOP MEMBER AND BOTTOM MEMBERS.

GRADE BEAM SCHEDULE

MARK	SIZE (WxH)	TOP	MID	BOT	STIRRUP SPACING
GB1	24 x 24	(4) #6		(4) #6	#3 STIRRUPS @ 6" O.C.
GB2	12 x 12	(2) #6		(2) #6	#3 STIRRUPS @ 8" O.C.

GRADE BEAM NOTES:

ANCHOR TOP STEEL INTO END BEAM 27" MIN. AT CORNERS.
PROVIDE A 27"x 27" #6 CORNER FOR EACH TOP MEMBER AND BOTTOM MEMBERS.

PILE SCHEDULE

MARK	TYPE
AP-1	24" AUGER PILE W/ (8) #6 VERT. & #3 TIES @ 6" O.C.

PILE CAP SCHEDULE

MARK	TYPE
PC-1	30" x 30" x 12" W/ (4) #5 EW BOTTOM
PC-2	36" x 36" x 12" W/ (4) #5 EW BOTTOM
PC-3	36" x 56" x 12" W/ #5 @ 9" o.c. EW BOTTOM

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No. 73110
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LIC. NO. 73110
COA: 30945

Consultants:

Submissions:
DATE: PHASE
2018.04.19 - ISSUED PERMIT SET

CITY OF KEY WEST -
WICKER'S FIELD ATHLETIC TRAILERS
1435 KENNEDY DRIVE;
KEY WEST, FL 33040

PLOTTED: 4/18/2018 4:37 PM

Drawing Size	Project #:
24x36	18038
Drawn By: NC	Checked By: AA

Title:
STRUCTURE NOTES AND DETAILS

Sheet Number:
S0.1.1

Date: 04/19/2018

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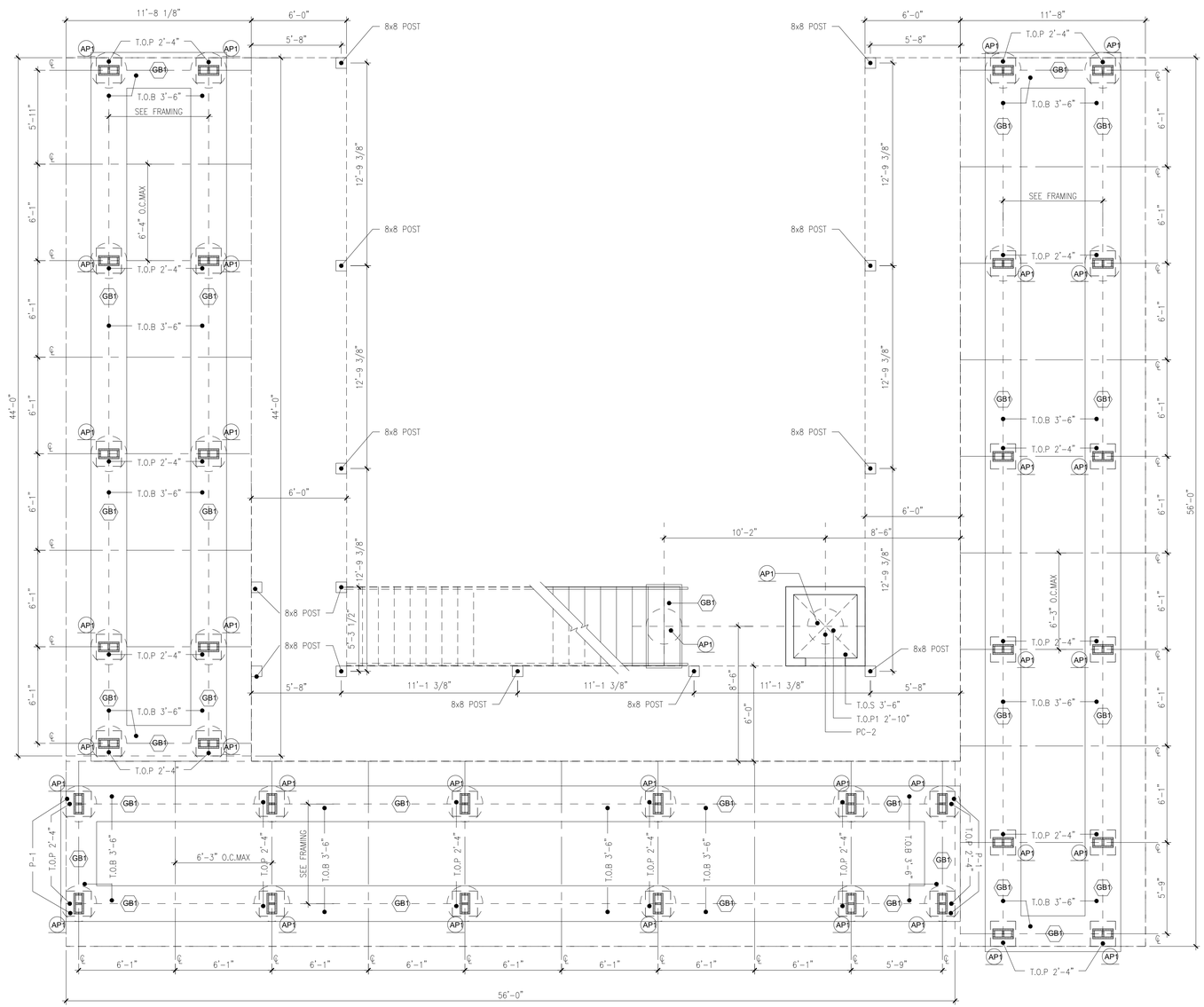

1

GROUND FLOOR COLUMN & WALL PLAN

SCALE: 1/4"=1'-0"

0 4 8 12

GRAPHIC SCALE: 1/4" = 1'-0"

GENERAL NOTES

1. @ EACH COLUMN(ALL C-4) THERE IS A P-1 BELOW

CODED NOTES

X

1	FILLED CMU CELL W (1) # 5
2	6" CONCRETE SLAB W/ # 5 @ 6" O.C EW. TOP & BOTTOM
3	6" CONCRETE SLAB W / # 5 @ 8" O.C EW BOTTOM
4	DROP TRUSS GIRDER
5	HIP TRUSS @ 24" O.C
6	MONO TRUSS @ 24" O.C
7	STANDARD HERVE TRUSS @ 24" O.C
8	FLOOR TRUSS GIRDER. GIRDER TO FLOOR TRUSS CONNECTION BY TRUSS ENGINEER
9	2 X 10 PT LEDGAR W/ (2) $\frac{1}{2}$") X 6" BOLTS @ 24" O.C.

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24x36	18038
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NC	AA

Title:

FOUNDATION PLAN

Sheet Number:

S2.1.0

Date: 04/19/2018

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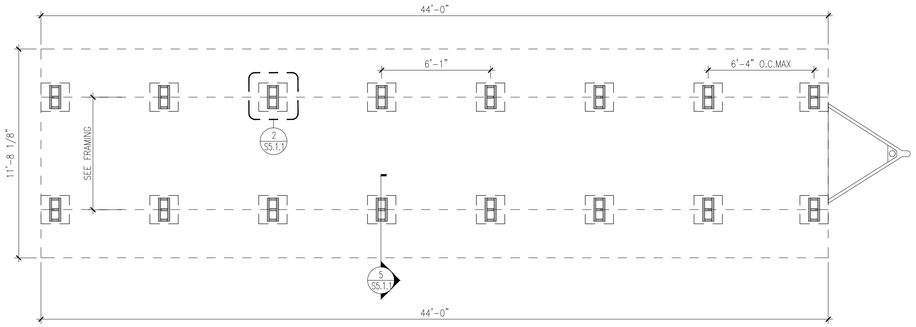


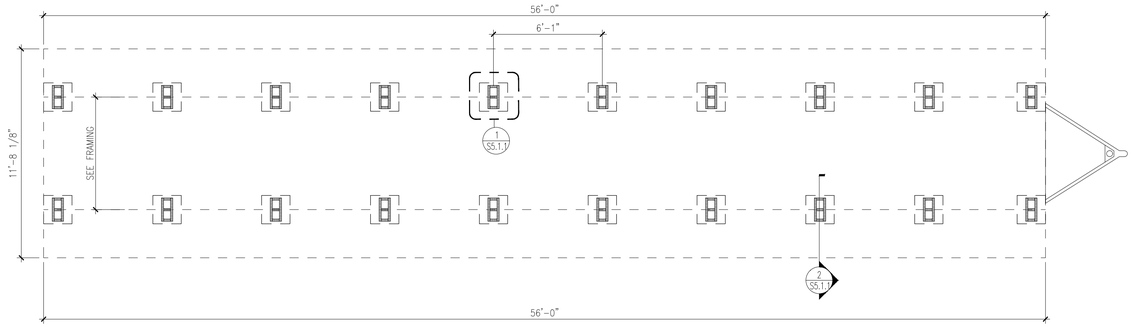
NOTE: LESSEE/ END USER IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND OBSTRUCTIONS .

NOTE: LESSEE/END USER IS RESPONSIBLE FOR CONDUCTING A "PULL TEST" IF REQUIRED FOR PERMITTING.

NOTE: IF SITE CONDITIONS/ BUILDING CONSTRUCTION DICTATE ANY STATE OF FLORIDA APPROVED TIE-DOWN METHOD MAY BE USED I LIEU OF DETAIL SHOWN.

1 FOUNDATION PLAN- PER MANUFACTURER

SCALE: 1/4"=1'-0"



MAXIMUM WIND SPEED PER CHART PER ASCE-7-10 ALL TIE DOWN ANCHORS SHALL HAVE MINIMUM 4725 LB. CAPACITY AND SHALL BE INSTALLED IN ACCORDANCE WITH THEIR APPROVAL.

NOTE: LESSE/END USER IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND OBSTRUCTIONS.

NOTE:LESSE/END USER IS RESPONSIBLE FOR CONDUCTING A "PILL TEST" IF REQUIRED FOR PERMITTING.

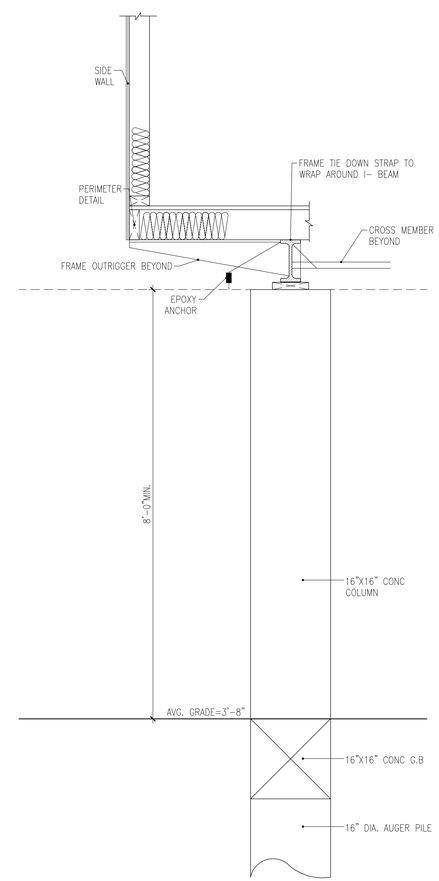
NOTE:LESSE/END USER IS RESPONSIBLE FOR INSURING THAT SITE/SOIL CONDITIONS MEET OR EXCEED THE REQUIREMENTS SHOWN.

NOTE: THIS FOUNDATION PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2009 EPCOT BUILDING CODE

FOUNDATION DIMENSIONS		
A MODULE WIDTH	B PIER TO MODULE WIDTH	C STEEL BEAM SPACING
11'-8"	22"	VARIES
D. MAX PIER SPACING	MINIMUM SOIL BEARING CAPACITY	
6'-1"	2000 PSF MINIMUM SOIL BEARING CAPACITY	

2 FOUNDATION PLAN-PER MANUFACTURER

SCALE: 1/4"=1'-0"



3 SECTION TIE DOWN , SIDEWALL (TYP.)

SCALE: 3/4"=1'-0"

NOTE:- DETAILS 1+2 ARE PER PER MANUFACTURER

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CITY OF KEY WEST - WICKER'S FIELD ATHLETIC TRAILERS

1435 KENNEDY DRIVE; KEY WEST, FL 33040

Drawing Size	Project #: 18038
Drawn By: NC	Checked By: AA

Title: FOUNDATION AND STRUCTURAL DETAILS

Sheet Number: S5.1.1

Date: 04/19/2018

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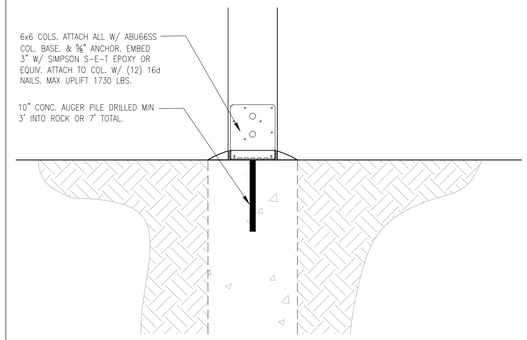
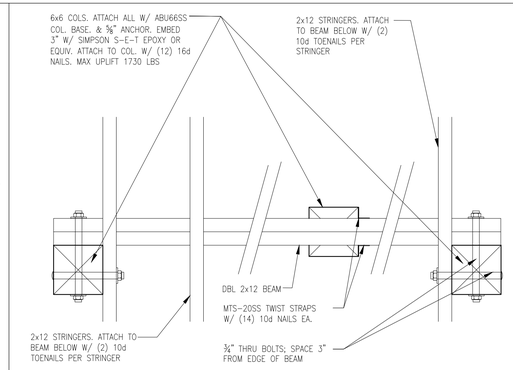
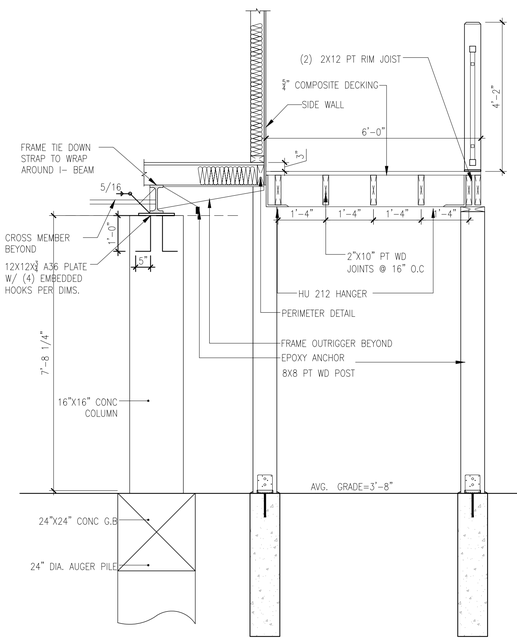


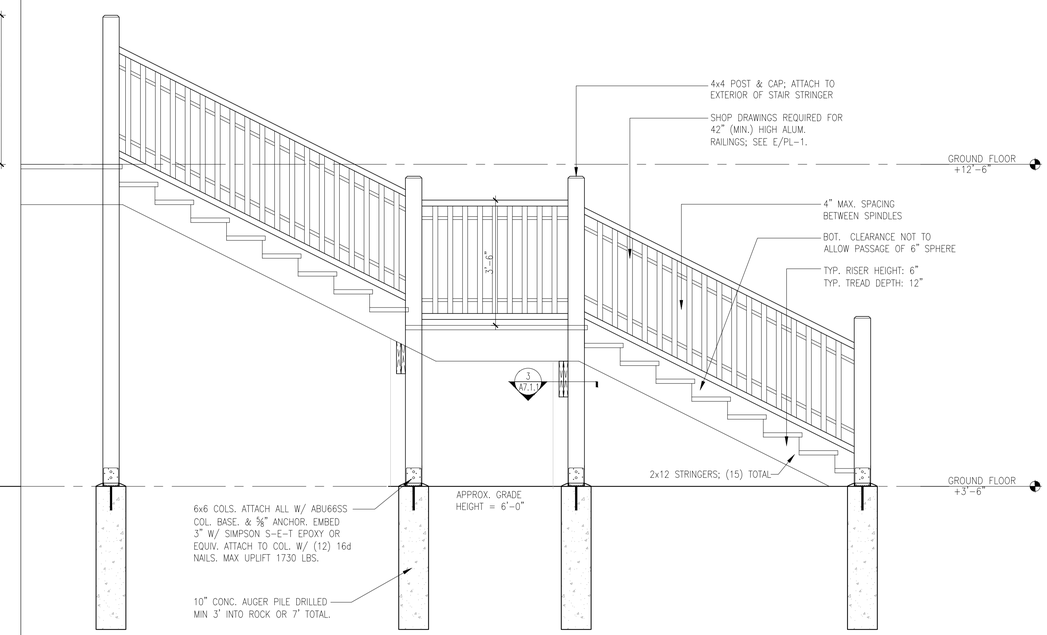
STAIR CORNER DETAIL SCALE: 1-1/2"=1'-0" 4



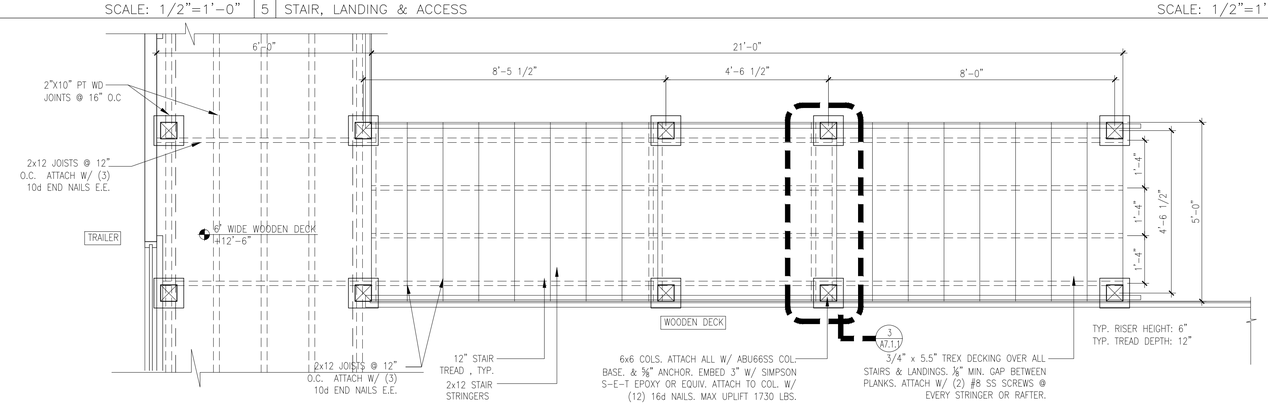
STAIR MID BEAM SCALE: 1-1/2"=1'-0" 3



WOODEN DECK SECTION SCALE: 1/2"=1'-0" 5



STAIR, LANDING & ACCESS SCALE: 1/2"=1'-0" 1



STAIR FRAMING PLAN SCALE: 1/2"=1'-0" 1

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CITY OF KEY WEST - WICKER'S FIELD ATHLETIC TRAILERS
1435 KENNEDY DRIVE; KEY WEST, FL 33040

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Drawing Size	Project #:
24x36	18038
Drawn By: NC	Checked By: AA

Title: ENLARGED STAIR PLANS & DETAILS

Sheet Number: S7.1.1

Date: 04/19/2018

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PART 6

MOBILE OFFICE TRAILER PLANS AND SPECIFICATIONS

SPECIFICATIONS

12 x 40 Modular Building

- **BASE BUILDING** - 11'8"x40' (no interior partitions)
  - Nominal Size: 12’x40’ - Square Ft: 480- Perimeter Ft: 104
  - Codes/States/Labels: IBC, FBC 6th Edition 2017
  - 180 MPH Wind Speed
  - Occupancy: Business

- **FRAME**
  - Outrigger Type (I-Beam Spacing - 95 1/2")
  - I-Beam Size 12”
  - Axle Quantity: 3 (minimum)
  - 8-PlyTires (new)
  - Detachable Hitch

- **FLOOR**
  - Nylon Impregnated Bottom Board
  - 2x6 Joists, 16" OC
  - 5/8" T & G Plywood Decking
  - 1/8" Vinyl Composite Block Tile

- **WALLS & PARTITIONS**
  - Wall Height: 8'-0"
  - No Interior Partition walls
  - 2x4 Studs on exterior walls
  - Double Top Plate
  - 2x6 Endwalls extended to roof decking
  - 5/8" “Type X” Vinyl Covered Gypsum Interior Wallboard
  - Standard Interior Trim Package
  - 216 LF of 4” Vinyl Cove Base
  - 4” VCB (vinyl cove base) thru-out

- **INTERIOR DOORS – Removed from scope**

- **ROOF**
  - Live Load: 30 psf (Florida)
  - Truss Spacing, 16" O.C.
  - Sheathing: 5/8" Plywood
  - Roof Covering: 45 Mil Black EPDM Rubber, w/1/2” Densdeck underlayment
  - Ceiling: pre-finished with Sea Spray Texture
  - Ceiling Height: 8'-0" AFF
  - No Roof Overhang/Projection
  - Attic Ventilation as Required

- **PLUMBING – Removed from scope**

- **ELECTRICAL**
  - (1) 100 Amp Panel 240 V
  - (6) Fluor. Lights: (2 bulbs) T-8 Bulbs (32w) & Electronic Ballasts & T-8 Bulbs
  - (2) Standard 60w Porch Light w/ Photo-Cell
  - (2) Combo Lighted Exit Sign/Emergency Light w/Battery
  - (6) Empty 2x4 J-Box w/1/2" Conduit Stubbed thru floor
  - Receptacles at approx. 12' OC
  - (1) Exterior GFI Receptacle
  - 12-2 Romex Wiring

- **HVAC**
  - (1) 2 Ton Wall Mount Unit w/10kw Heat
  - 36 LF Fiberglass Supply Duct w/Grilles
  - 30 LF of Fiberglass return Ducts with Grilles
  - 12 LF Plenum Wall
  - (1) Digital Thermostat

- **CABINETS & FURNISHINGS – Removed from scope**

- **EXTERIOR**
  - Hardipanel Siding, Stucco Embossed
  - Hardipanel Mansard (False Mansard)
  - 100% House Wrap
  - 100% 5/8" Plywood Sheathing

- **WINDOWS**
  - (6) 48”x28”, Impact rated Horizontal Sliding
  - (6) Mini Blinds

- **EXTERIOR DOORS**
  - (2) 36"x80" Steel /Steel w/6"x30” VB Impact Rated
  - (2) Lever Hardware
  - (2) Dead bolts
  - (2) Closers

- **INSULATION**
  - Floor - R-19
  - Exterior Wall - R-13
  - Roof - R-30

See Site Construction Documents for final height of modular placement.

SPECIFICATIONS

12’ x 56’ Modular Building

- **BASE BUILDING** - 11'8"x56'
  - Nominal Size: 12’x56’ - Square Ft: 672- Perimeter Ft: 136
  - Codes/States/Labels:
  - IBC, FBC 6th Edition 2017
  - 180 MPH Wind Speed
  - Occupancy: Business

- **FRAME**
  - Outrigger Type (I-Beam Spacing - 95 1/2")
  - I-Beam Size 12”
  - Axle Quantity: 3 (minimum)
  - 8-PlyTires (new)
  - Detachable Hitch

- **FLOOR**
  - Nylon Impregnated Bottom Board
  - 2x6 Joists, 16" OC
  - 5/8" T & G Plywood Decking
  - 1/8" Vinyl Composite Block Tile

- **WALLS & PARTITIONS**
  - Wall Height: 8'-0"
  - 44 LF of Interior Partition walls
  - 2x4 Studs, 16" OC interior walls
  - 2x4 Studs on exterior walls
  - Double Top Plate
  - 2x6 Endwalls extended to roof decking
  - 5/8" “Type X” Vinyl Covered Gypsum Interior Wallboard
  - Standard Interior Trim Package
  - 4” VCB (vinyl cove base) thru-out

- **INTERIOR DOORS**
  - Qty.: 3 (36’x80”) Painted, Hollow Core on Steel Frame
  - Passage and (2) privacy locksets

- **ROOF**
  - Live Load: 30 psf (Florida)
  - Truss Spacing, 16" O.C.
  - Sheathing: 5/8" Plywood
  - Roof Covering: 45 Mil Black EPDM Rubber, w/1/2” Densdeck underlayment
  - Ceiling: pre-finished with Sea Spray Texture
  - Ceiling Height: 8'-0" AFF
  - No Roof Overhang/Projection
  - Attic Ventilation as Required

- **PLUMBING**
  - Handicap accessible 1/2 bath
  - Wall-mount lavatory w/mirror & single lever faucet
  - HC water closet w/grab bars & t.p. holder
  - Instant Water Heater 6.5kw
  - CPVC Supply Lines
  - PVC Drain Lines (manifolding by others)

- **ELECTRICAL**
  - 100 Amp Panel 240 V
  - (9) Fluor. Lights: (2 bulbs) T-8 Bulbs (32w) & Electronic Ballasts & T-8 Bulbs
  - Standard 60w Porch Light w/ Photo-Cell
  - Combo Lighted Exit Sign/Emergency Light w/Battery
  - (6) Empty 2x4 J-Box w/1/2" Conduit Stubbed thru floor
  - Commercial grade 20 amp Receptacles at approx. 12' OC
  - Exterior GFI Receptacle
  - 12-2 Romex Wiring
  - Combo Light & 100 CFM Exhaust fan Ceiling-Mounted

- **HVAC**
  - 2 Ton Wall Mount Unit w/10kw Heat
  - 52 LF Fiberglass Supply Duct w/Grilles
  - 46 LF of Fiberglass return Ducts with Grilles
  - 12 LF Plenum Wall
  - Digital Thermostat

- **CABINETS & FURNISHINGS – Removed from scope**

- **EXTERIOR**
  - Hardipanel Siding, Stucco Embossed
  - Hardipanel Mansard (False Mansard)
  - 100% House Wrap
  - 100% 5/8" Plywood Sheathing

- **WINDOWS**
  - (8) 48”x28”, Impact rated Horizontal Sliding
  - (8) Mini Blinds

- **EXTERIOR DOORS**
  - 36"x80" Steel /Steel w/6"x30” VB Impact Rated
  - Lever Hardware
  - Dead bolts
  - Closers

- **INSULATION**
  - Floor - R-19
  - Exterior Wall - R-13
  - Roof - R-30

See Site Construction Documents for final height of modular placement.

ADDITIVE ALTERNATE NO.2 SPECIFICATIONS

SECTION 14 20 20 - VERTICAL WHEELCHAIR LIFT

Lack of ability to provide the alternate will not make the bidder "non-responsive".

PART 1. GENERAL

1.1 SECTION INCLUDES

A. Commercial wheelchair lifts.

1.2 RELATED SECTIONS

A. Division 16 Sections for electrical service for elevators to and including disconnect and fused switches at machine room.

B. Division 16 Sections for standby power source, transfer switch, and connection from auxiliary contacts in transfer switch to controller.

C. Division 16 Section "Voice and Data Communication Cabling" for telephone service to elevators.

D. Section 03300 - Cast-in-Place Concrete: Concrete for elevator machine foundation, and pit.

E. Section 06100 - Rough Carpentry: Hoistway framing, building-in hoistway door frames and overhead hoist beams.

F. Section 08210 - Wood Doors: Hoistway doors.

G. Section 08710 - Door Hardware.

H. Section 09260 - Gypsum Board Assemblies: Gypsum shaft walls.

I. Section 09650 - Resilient Flooring: Floor finish in cab.

J. Section 09686 - Carpet: Floor finish in cab.

K. Section 09900 - Paints and Coatings: Interior transparent wood finish in cab.

L. Section 13850 - Detection and Alarm: Fire and smoke detectors and interconnecting devices.

1.3 REFERENCES

A. American National Standards Institute (ANSI) B-29.2 - Chain Standards for Inverted Tooth (Silent) Chains and Sprockets.

B. American Society of Mechanical Engineers (ASME) A17.1 - Safety Code for Elevators and Escalators.

C. American Society of Mechanical Engineers (ASME) A18.1 - Safety Standard for Platform and

Stairway Chair Lifts.

D. CSA B44.1 - Elevator and Escalator Electrical Equipment.

E. CSA B355 - Lifts for Persons with Physical Disabilities.

F. CSA B613 - Private Residence Lifts for Persons with Physical Disabilities.

G. U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)".

H. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities.

I. NFPA 70 - National Electric Code.

J. CSA - National Electric Code.

1.4 REQUIREMENTS OF REGULATORY AGENCIES:

A. Fabricate and install work in compliance with applicable jurisdictional authorities.

B. File shop drawings and submissions with local authorities as the information is made available. Company pre-inspection and jurisdictional authority inspections and permits are to be made on timely basis as required.

1.5 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods.

C. Shop Drawings: Provide a complete layout of lift equipment detailing dimensions and clearances as required.

D. Selection Samples: For each finish product specified requiring selection of color or finish, two complete sets of color charts representing manufacturer's full range of available colors and patterns.

1.6 QUALITY ASSURANCE

A. Installer Qualifications:
1. Skilled tradesmen shall be employees of the installing contractor approved by the manufacturer, with demonstrated ability to perform the work on a timely basis.
2. Execute work of this section only by a company that has adequate product liability insurance.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.8 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install systems under environmental conditions outside manufacturer's absolute limits.

1.9 WARRANTY

A. Coverage - this warranty applies to the repair or replacement, at Manufacturer's option, of parts that fail due to defective material or workmanship. Manufacturer may, at its option, provide factory reconditioned parts. This warranty is provided to the Authorized Dealer on behalf of the final purchaser of the product and is not transferable. The Manufacturer's warranty does not cover labor charges for the removal, repair or replacement of warranty parts but such costs may be covered for a period of time by Authorized Dealer's warranty, which is provided to purchaser separately.

1. The manufacturer shall offer a 36-month limited warranty on parts from date of shipment.

PART 2. PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer that maintains the standards outlined in these specifications.

2.2 COMMERCIAL WHEELCHAIR LIFT

A. Screw drive Vertical Platform Lifts

B. A vertical platform lift consisting of a tower with a lifting platform. The platform is made to accommodate a wheelchair user or a person with impaired mobility. The lift can be used indoor or outdoor and in commercial and residential applications.

C. Work described in this section includes providing equipment, incidental material and labor required for a complete, operable screw drive wheelchair lift installation. Lifts shall be erected, installed, adjusted, tested and placed in operation by lift system manufacturer, or manufacturer's authorized installer.

1) Lifts shall be in accordance:
   a. ASME A18.1 and ADAAG compliant (USA)
   b. ASME A18.1 and A117.1 compliant (USA)
   c. ASME A18.1 only (USA)

D. The following preparatory work to receive the lifts specified in this section is part of the work of other sections:

1. Permanent 120 VAC, 20 amp single phase power to operate lift to be provided from a lockable fused/cartridge type disconnect switch with auxiliary contacts for battery operation. Refer to drawings for permanent power specifications and location of disconnects. Temporary power may be provided to expedite installation of lift.
2. Provide a plumb and square hoistway with smooth interior surfaces, including fascias.
3. Provide rough openings per lift contractor's shop drawings.
4. Provide substantial, level pit floor slab as indicated on the lift contractor's shop drawings.

E. Characteristics:

1. Rated Load: 750 lb (340 kg).
2. Rated Speed: 8 fpm (0.04 m/s).
3. Car Dimensions:

a. 36 inches W by 48 inches D (914 mm by 1219 mm).
b. 36 inches W by 54 inches D (914 mm by 1372 mm)
c. 36 inches W by 60 inches D (914 mm by 1524 mm)

4. Levels Serviced: 2.
5. Car Configuration:
   a. Front/rear exit
   b. 90 degree exit
6. Travel:_____ inches. (Maximum travel per code is 60”)
7. Pit Depth: 0” (Automatic fold up ramp provided)
8. Powder Coat Finish
   a. Almond beige – Standard
   b. Optional color – From manufactures color chart
   c. Custom color – Provide color sample to manufacturer
9. Operation: Constant pressure.
10. Power Supply: 120 volt, 20 amp, 1 phase, 60 Hz.
11. Drive System: screw and back-up nut
12. Manual Emergency Operation: A manual hand crank is provided to lower or raise the platform in case of emergency.
13. Emergency Power:
    a. No battery backup – Standard.
    b. 24 VDC Battery raising and lowering
14. Controller: Relay logic based controller

F. Car Enclosure: Side Guards of platform shall have a steel frame with a powder coat finish and steel panel inserts to a minimum of 42 inches (1067 mm) high.

G. Gates:
1. Lower landing platform gate:
   a. 42” high platform gate with a concealed electro/mechanical interlock.
   b. Operation
      1) Manual
      2) Automatic – Surface mounted gate opener for platform gate.
   c. Gate Width: 36 inches (889 mm)

2. Upper landing gate:
   a. 42” low profile aluminum gate with a concealed electro/mechanical interlock.
   b. Flush closing operation with hoistway side.
   c. Operation
      1) Manual – with hydraulic closer
      2) Automatic – Surface mounted gate opener for low profile aluminum gate.
   d. Gate Width
      1) 36 inches (889 mm)
      2) 42 inches (1067 mm)

H. Call Stations: Provide a surface, flush, or doorframe mounted call/send station.
1. Call stations will be:
   a. Keyless
   b. Keyed (removable in off position)
   c. Keyed (removable in on/off position)

I. Car Operation:

1. Car operating panel shall consist of constant pressure buttons, an emergency stop button and an on/off key switch (when applicable).
2. Auxiliary lighting: The car shall be equipped with a battery operated light. The battery shall be the rechargeable type with an automatic recharging system.

J. Screw Drive: The screw should have a diameter of 1 inch (25 mm) and a back-up nut shall be installed.

K. Stopping Device: All limit switches shall be located in a position to be inaccessible to unauthorized persons. They shall be located behind the mast wall and be accessible through removable panels.

L. Terminal Stopping Device: Normal terminal stopping devices shall be provided at top and bottom of runway to stop the car positively and automatically.

M. Guide Rails and Bracket: Guide rails and brackets shall be used to guide the platform and sling. Guide rails shall form part of the structural integrity of the unit and be integral to the mast enclosure, ensuring stability and minimum platform deflection when loaded.

N. Car Sling: Car sling shall be fabricated from steel tubing 42 inches high (1070 mm) with adequate bracing to support the platform and car enclosure. Roller guide shoes shall be mounted on the top and bottom of the car sling to engage the guide rails. Guide shoes to be roller type with 3 inches (76 mm) diameter wheels. Roller guide shoes shall be used for better ride quality and durability.

O. Wiring: All wiring and electrical connections shall comply with applicable codes. Insulated wiring shall have flame-retardant and moisture proof outer covering and shall be run in conduit, or electrical wire ways.

PART 3. EXECUTION

3.1 EXAMINATION

A. Do not begin installation until hoistway and machine room has been properly prepared.

B. Site dimensions shall be taken to verify that tolerances and clearances have been maintained and meet local regulations.

C. If substrate preparation is the responsibility of another installer, notify Owner of unsatisfactory preparation before proceeding.

3.3 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.4 ELEVATOR INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install the components of the elevator system that are required and that are required by jurisdictional authorities to license the elevator.

A. Trained employees of the elevator contractor shall perform installation work.

B. Adjust elevator for proper operation and clean unit thoroughly.

C. Instruct users in operating procedures and owner's maintenance person in trouble-shooting and maintenance procedures.

3.5 LIFT INSTALLATION

A. Install all the components of the lift system that are specified in this section to be provided, and that are required by jurisdictional authorities to license the lift.

B. Trained employees of the lift contractor shall perform all installation work of this section.

C. Adjust lift for proper operation and clean unit thoroughly.

D. Instruct users in operation procedures and Owner's maintenance person in trouble-shooting and maintenance procedures.

3.6 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION