

Florida Solar Energy Center  
**FLEXIBLE RESIDENTIAL  
TEST STRUCTURE**  
COCOA, FLORIDA

**PROJECT MANUAL**

Project # FI 10FSEC01



April 2, 2010

Use this document in conjunction with drawings prepared by  
Michael M. Houston, Architect

Titled  
"FLEXIBLE RESIDENTIAL TEST STRUCTURE"

Dated: 04/02/10

**PROJECT MANUAL**

for

**Flexible Residential Test Structure**

Florida Solar Energy Center  
1679 Clearlake Road  
Cocoa, FL 32922

Project #: FI 10FSEC01

**UNIVERSITY OF CENTRAL FLORIDA**

**by**

**UNIVERSITY OF CENTRAL FLORIDA BOARD OF TRUSTEES**

Prepared By:  
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## **PROJECT MANUAL**

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**CALL FOR BIDS**

made by the STATE OF FLORIDA, UNIVERSITY OF CENTRAL FLORIDA

PROJECT: FLEXIBLE RESIDENTIAL TEST STRUCTURE

PROJECT No: FI 10FSEC01

FOR: UNIVERSITY OF CENTRAL FLORIDA

QUALIFICATION: All Bidders must be qualified at the time of bid opening in accordance with the Instructions to Bidders, Article B-2.

Sealed bids will be received on:

DATE AND TIME: June 11, 2010 until 2:00 pm local time.

PLACE: Florida Solar Energy Center, Attention: Jim Roland, 1679 Clearlake Road, Cocoa, FL 32922, at which time and place they will be publicly opened and read aloud. Contract award will be made subject to the availability of funds.

PROPOSAL: Bids must be submitted in full and in accordance with the requirements of the drawings and Project Manual, which may be obtained or examined at the Florida Solar Energy Center at 1679 Clearlake Road, Cocoa, FL 32922. Contact Jim Roland @ 321-638-1500.

PRE-SOLICITATION/PRE-BID MEETING: The Bidder is encouraged to attend the pre-solicitation/pre-bid meeting. Minority Business Enterprise firms are invited to attend to become familiar with the project specifications and to become acquainted with contractors interested in bidding the project. The meeting has been scheduled for:

**DATE AND TIME:** April 27, 2010 at 10:00am

**PLACE:** Florida Solar Energy Center, 1679 Clearlake Road, Cocoa, FL, 32922

## DOCUMENTS:

Full sets of bidding documents are available at the following locations for contractor review and use for take-offs (they may not be taken from the premises):

- Florida Solar Energy Center, 1679 Clearlake Rd, Cocoa, FL 32922, (321) 638-1000
- Central Florida Builders Exchange, 340 N Wymore Rd, □ Winter Park, FL 32789, (407) 629-2411
- Florida East Coast Builders Exchange, 644 Clearlake Rd, Cocoa, FL 32922, (321) 631-5095

Full sets of drawings and project manual may be purchased through the following Printers (call printer for costs):

- NGI - 1612 N. Orange Avenue, Orlando, FL 32804, (407) 898-3881
- Art & Engineering Supply Inc - 975 N Courtenay Parkway, Merritt Island, FL 32953, (321) 459-1410
- Ace Blueprinters of Brevard, Inc. □ - 2237 S. Babcock St, □ Melbourne, FL 32901, (321) 725-1244

Partial sets may be purchased (call printer for costs) and are sold subject to the provisions of Article B-25 of the Instructions to Bidders.

**PUBLIC ENTITY CRIMES:** As required by Section 287.133, Florida Statutes, a contractor may not submit a bid for this project if it is on the convicted vendor list for a public entity crime committed within the past 36 months. The successful contractor must warrant that it will neither utilize the services of, nor contract with, any supplier, subcontractor, or consultant in excess of \$15,000.00 in connection with this project for a period of 36 months from the date of their being placed on the convicted vendor list.

## **INSTRUCTIONS TO BIDDERS**

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## **INSTRUCTIONS TO BIDDERS**

### **B-1 PROJECT MANUAL TERMINOLOGY**

**INDEX OF TERMS:** Whenever in these Instructions to Bidders the following terms (or pronouns which replace these terms) are used, their intent and meaning shall be interpreted as follows:

**ADDENDA:** A written or graphic instrument issued by the Architect/Engineer prior to the execution of the contract which modifies or interprets the Bidding Documents by addition, deletion, clarification and/or correction.

**AGREEMENT:** “Agreement” shall mean the document entitled “Owner-Contractor Agreement for Construction”.

**ALTERNATE:** An alternative use or type of material or an increase or decrease in the scope of the project, as specifically identified by the plans and/or the specifications.

**ARCHITECT/ENGINEER:** The firm identified in the Call for Bids. (See also Subparagraph 4.1.1 of the General Conditions.

**BASE BID:** The sum stated in the Proposal for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added, or from which Work may be deleted for sums stated in Alternate Bids.

**BIDDER:** Any individual, firm, partnership or corporation submitting a proposal for the Work contemplated.

**BIDDING DOCUMENTS:** The Call for Bids, Instructions to Bidders, the Proposal Form and the proposed Contract Documents, including any Addenda issued prior to receipt of bids.

**CALL FOR BIDS:** The “Call for Bids” consists of the Advertisement for Bids and/or the Invitation to Bid.

**CONTRACT:** The “Contract” is comprised of the Contract Documents as defined in Article 1 of the General Conditions and listed in the Owner-Contractor Agreement.

**CONTRACTOR:** Any individual, firm, partnership or corporation entering into an agreement to perform the Work specified herein.

**DRAWINGS:** The drawings or reproductions thereof pertaining to the Work to be performed and which have been prepared or approved by the Architect/Engineer.

**OWNER:** University of Central Florida Board of Trustees.

**PROJECT MANUAL:** All items listed in the Project Manual Index. (see page 2)

PROPOSAL: A bid for the contemplated Work which the Bidder shall submit on approved forms.

PUBLIC ENTITY CRIME: A crime as defined in Sections 287.132 and 287.133, Florida Statutes.

SPECIFICATIONS: See subparagraph 1.1.6 of the General Conditions.

SURETY: The corporate body which is bound with and for the Contractor, which is primarily liable and which guarantees the faithful performance of the Contract.

## **B-2 QUALIFICATION OF BIDDERS**

### **PREQUALIFICATION**

In order to be eligible to submit a Proposal, a Bidder must:

- (1) Where the scope of the Work falls within the provisions of Chapter 489, Florida Statute, hold the required applicable license in good standing at the time of the receipt of bids;
- (2) Hold a currently active Florida Corporation Charter Number in accordance with Chapter 607, Florida Statutes, if the Bidder is a corporation;
- (3) Not be disqualified at the time of the bid submittal through disqualification procedures described in Chapter 6C-14.022, Florida Administrative Code;
- (4) Meet any special requirements set forth in the Appendix I: Special Conditions of this Project Manual; and,
- (5) Not have been convicted of a public entity crime, within 36 months prior to the bid date for this project.

## **B-3 FAMILIARITY WITH LAWS**

The Bidder is required to be familiar with all federal, state and local laws, ordinances, rules and regulations that in any manner affect the Work. Ignorance on the part of the Bidder will in no way be considered relief from responsibility for compliance with their requirements. The application of Chapter 553 “threshold building” requirements to this project is specifically addressed in the General Conditions section of this Project Manual.

## **B-4 FLORIDA PRODUCTS AND LABOR**

The Contractor’s attention is called to Section 255.04, Florida Statutes, which requires that on public building contracts Florida products and labor shall be used wherever price and quality are equal, subject to consideration set forth in that Section of the Statutes relating to comparisons of quality of materials, as well as qualifications, character, responsibility and fitness of material men, contractors, and builders proposed for employment.



## **B-5 TAXES**

Contractors who purchase materials which will be used in the construction of a State-owned building will not be exempted from the sales tax on these materials.

The Owner is not subject to:

- Federal excise taxes on materials or appliances that are incorporated into and become a part of the completed improvement.
- Federal tax on transportation of property.

In every case of purchase of materials to be incorporated in the Work which are subject to federal excise tax, the Owner will furnish to the Contractor the necessary Federal Excise Tax Exemption Certificate upon receipt of a copy of the supplier's invoice showing the item or items, the net price, and federal excise tax separately.

The Bidder shall take these factors into consideration in preparing the Proposal, including therein the cost of the state sales and use tax on materials, but excluding the cost of those taxes not applicable.

## **B-6 PROGRESS PAYMENTS**

Based upon Applications for Payment submitted to the Architect/Engineer by the Contractor and Certificates for Payment issued by the Architect/Engineer, the Owner shall make monthly progress payments to the Contractor as noted in Article 9 of the General Conditions. Special requirements relating to payments for project of less than \$100,000, which are exempt from the requirements for Payment and Performance Bonds, are addressed in the General Conditions.

## **B-7 CONTRACT DOCUMENTS**

Contract Documents are as described under Article 1 of the General Conditions and listed in the Agreement.

## **B-8 ALTERNATES**

Alternates shall be listed on the Proposal Form in such a manner to clearly indicate what amounts are to be added to (or deducted from) the Base Bid. Failure of a Bidder to quote one or more Alternates may result in the bid being rejected.

## **B-9 ADDENDA**

In case the Architect/Engineer finds it necessary to supplement, modify or interpret any portion of the Bidding Documents during the bidding period, such procedure will be accomplished by the issuance of written Addenda to the Bidding Documents which will be emailed and delivered or mailed to all known prequalified contractors. Addenda will be issued no less than seven (7) calendar days prior to the date scheduled for receipt of bids. Minor revisions, corrections or clarifications will be issued as telegraphic addenda no less than three (3) calendar days prior to the date scheduled for the receipt of bids. Thereafter, the only addendum will be telegraphic and will be only to withdraw the request for bids, or to postpone the date for the receipt of bids.

## **B-10 INTERPRETATION OF BIDDING DOCUMENTS**

No interpretation of the meaning of the Drawings, Specifications, or other Bidding Documents, and no correction of any apparent ambiguity, inconsistency or error therein, will be made to any Bidder orally. Every request for such interpretation or correction shall be in writing, addressed to the Architect/Engineer. All such interpretations and supplemental instruction will be in the form of written addenda to the Bidding Documents.

Only the interpretation or correction so given by the Architect/Engineer, in writing, shall be binding. Bidders are advised that no other source is authorized to give information concerning, or to explain or interpret the Bidding Documents.

## **B-11 EXAMINATION OF BIDDING DOCUMENTS AND SITE OF WORK**

Bidders are required, before submitting their Proposals, to visit the site of the proposed Work and completely familiarize themselves with the nature and extent of the Work and any local conditions that may in any manner affect the Work to be performed and the equipment, materials, and labor required. They are also required to examine carefully the drawings, specifications and other Bidding Documents, to inform themselves thoroughly regarding any and all conditions and requirements that may in any manner affect the Work.

## **B-12 BASIS FOR BIDDING – TRADE NAMES**

For clarity of description and as a standard of comparison, certain equipment and materials have been specified by trade names or manufacturers. To insure a uniform basis for bidding, the Bidder shall base the Proposal on the particular systems, equipment or materials specified and approved substitutes as provided in the General Conditions and Specification Section 00 26 00 – Procurement Substitution Procedures. After bids are received, no equipment or materials will be approved as a substitute for the specified product.

## **B-13 BID GUARANTEE**

Proposals shall be accompanied by a bid guarantee of not less than five (5) percent of the amount of the base bid. This bid guarantee may be a certified check; cashier's check, treasurer's check or bank draft of any national or state bank; or bid bond made payable to the Owner. Such check or bid bond shall be submitted with the understanding that it shall guarantee that the Bidder will not withdraw the bid for a period of forty-five (45) days after the scheduled closing time for the receipt of bids; that if the Proposal is accepted, the Bidder will enter into a written contract with the Owner in accordance with the Agreement included as a part of the Contract Documents, and that the required Labor and Materials Payment Bond and Performance Bond for projects in excess of \$100,000 will be given; and that in the event of failure to execute said Agreement and given said bonds within ten (10) days after receipt of the form of Agreement and bonds from the Owner, the Bidder shall be liable to the Owner for the full amount of the bid guarantee as representing the damage to the Owner on account of the default of the Bidder in any particular hereof. The bid guarantees shall be returned to all Bidders after execution of the Agreement and the Labor and Materials Payment Bond and the Performance Bond have been approved by the Owner. If the required Agreement and bonds have not been executed within forty-five (45) days after the date of the opening of the bids, then the bid bond or check of any Bidder will be

returned upon request, provided the Bidder has not been notified of the acceptance of the Bidder's Proposal prior to the date of such request.

#### **B-14 SURETY COMPANIES ACCEPTABLE FOR THE UNIVERSITY OF CENTRAL FLORIDA BOARD OF TRUSTEES**

The Surety for the Bid Bond does not necessarily have to be the same as for the Labor and Material Payment and Performance Bonds.

##### **I. Bid Bonds.**

To be acceptable to the University of Central Florida Board of Trustees as Surety for Bid Bonds, a Surety Company must meet the following requirements at the time the invitation to bid is issued:

- a. Be in good standing with the Florida Department of Insurance.
- b. Be authorized or approved to do business in the State of Florida.
- c. Be authorized to write Surety Bonds in the State of Florida.
- d. The Bid Bond must be signed by Florida Licensed Resident Agent who holds a current Power of Attorney from the Surety Company issuing the Bid Bond.
- e. Have twice the minimum surplus and capital required by the Florida Insurance Code.
- f. Be in compliance with all other provisions of Florida Insurance Code (no violation).
- g. Hold a current valid certificate of authority issued by the United States Department of Treasury under SS 31 USC 9304-9308.

##### **II. Performance Bonds and Labor and Material Payment Bonds.**

For all projects in excess of \$100,000, the Contractor shall furnish the Owner with a State of Florida 100% Labor and Materials Payment Bond and a Performance Bond written by a Surety Company acceptable to the Owner and authorized to do business in the State of Florida and signed or countersigned by a Florida Licensed Resident Agent who holds a current Power of Attorney from the Surety issuing the Bond. Projects of \$100,000 or less are exempt from the requirement to provide such Bonds.

The cost of the Bonds shall be borne by the Contractor. The Bonds shall be accompanied by a duly authenticated or certified document, evidencing that the person executing the Bonds on behalf of the Surety had the authority to do so on the date of the Bonds. In the usual case the conferring of that authority has occurred prior to the date of the Bonds, and the document showing the date of appointment and enumeration of powers of the person executing the Bonds is revoked and remain in effect. The date of that certification cannot be earlier than the date of the Bonds. The Bonds shall not be dated earlier than the Agreement.

To be acceptable to the University of Central Florida Board of Trustees as Surety for Performance and Labor and Materials Payment Bonds, a Surety Company must meet the following requirements at the time the invitation to bid is issued:

- a. Be in good standing with the Florida Department of Insurance.
- b. Authorized or approved to do business in the State of Florida.
- c. Authorized to write Surety Bonds in the State of Florida.
- d. For project for which the contract amount is \$500,000 or less:
  - (1) Have twice the minimum surplus and capital required by the Florida Insurance Code.
  - (2) Be in compliance with all other provisions for Florida Insurance Code (no violations).
  - (3) Hold a current valid certificate of authority issued by the United States Department of Treasury under SS 31 USC 9304-9308.
- e. For projects for which the contract amount is \$500,000 or greater:
  - (1) The Surety Company shall have been in business and have a record of successful continuous operation for at least five years, unless this provision is expressly deleted by addendum or by the Special Conditions to this Project Manual (if any); and
  - (2) Except for asbestos contracts, for which a B rating is acceptable, the Surety Company shall have at least the following minimum rating:

<u>CONTRACT AMOUNT</u>	<u>BEST RATING</u>	<u>REQUIRED FINANCIAL SIZE</u>
500,000 to 749,999	A	Class V
750,000 to 999,999	A	Class VI
1,000,000 to 1,499,999	A	Class VII
1,500,000 to 9,999,999	A	Class VIII
10,000,000 or more	A	Class IX

#### **B-15 PREPARATION AND SUBMISSION OF BIDS**

Each Proposal shall be submitted on the form contained in the Project Manual and bid prices shall be indicated thereon in proper spaces, for the entire Work and for all Alternates. (See B-8)

In the event of a discrepancy in the bid amount on the Proposal between the numeric and written quotes, the written amount will govern.

Each Proposal must give the full business address of the Bidder and state whether it is an individual, corporation or partnership.

Proposals by a corporation must be signed with the legal name and seal of the corporation followed by the name of the state of its incorporation and the manual signature and designation of an officer, agent or other person authorized to bind the corporation.

### **B-16 BID MODIFICATIONS**

Bid modifications will be accepted from Bidders, if addressed as indicated on the Proposal Form and if received prior to the Opening of Bids. No bid modification will be accepted after the close of bidding has been announced. Modifications may be in the form of telegrams or may be indicated in the modification space provided on the Proposal Form.

IMPORTANT NOTE: Modifications indicated on the outside of the sealed bid envelope and unsigned modifications will have no status and will not be a consideration of the bid award, but will not serve to disqualify the Bidder.

Modifications to a bid will be read by the Owner or Architect/Engineer prior to the reading of the formal bid.

### **B-17 WITHDRAWAL OF BIDS**

Bids may be withdrawn on written or telegraphic request received from Bidders prior to the time fixed for opening bids. Negligence on the part of the Bidder in preparing the Proposal confers no right for withdrawal of the bid after it has been opened. No bid may be withdrawn after the opening bids are commenced.

### **B-18 RECEIPT AND OPENING OF BIDS**

Bids shall be deposited at the designated location prior to the time for receipt of bids indicated in the Call for Bids, or any extension thereof made by Addendum. Bids received after the time for receipt of bids will not be accepted.

Bids will be publicly opened and read at the time and place stated in the Call for Bids. The officer whose duty it is to open them will decide when the specified time has arrived and no bids received thereafter will be considered. No responsibility will be attached to any officer for the premature opening of a bid not properly addressed and identified.

On the day of the reading of the Proposals, a tabulation of the bids will be posted at the location where the bids were opened.

### **B-19 DISQUALIFICATION OF BIDS**

By submittal of a Proposal, a Bidder professes not to be disqualified from bidding State work nor under suspension resulting from conviction of contract crime including any act prohibited by state or federal criminal law which involves fraud, bribery, collusion, conspiracy, violation of state or federal antitrust laws, or material misrepresentation committed in any federal or state jurisdiction with respect to public contract.

Any or all Proposals will be rejected if there is reason to believe that collusion exists among the Bidders; no participants in such collusion will be considered in future Proposals for the same Work. Proposals in which prices obviously are unbalanced may be rejected by the Owner.

Falsification of any entry made on a Bidder's Proposal will be deemed a material irregularity and will be grounds for rejection.

#### **B-20 REJECTION OF BIDS**

The Owner reserves the right to reject any and all bids when in the opinion of the Owner such rejection is in the best interest of the Owner.

#### **B-21 BID PROTEST**

Any person who is affected adversely by the University of Central Florida Board of Trustees' decision or intended decision shall file with the Office of Facilities Planning Director, University of Central Florida, P.O. Box 163020, Orlando, Florida 32816-3020, a notice of protest in writing with 72 hours, excluding Saturday, Sunday, and State legal holidays, after receipt of the bidding documents if the protest is directed toward the bidding conditions or after the notice of the University of Central Florida Board of Trustees' decision or intended decision on contract award or bid rejection if the protest is directed toward contract award or bid rejection.

Thereafter, a formal written protest by petition in compliance with Section 120.53(5), and Section 120.57, F.S., must be filed with the Office of Facilities Planning Director, University of Central Florida, P.O. Box 163020, Orlando, Florida 32816-3020, within ten (10) days after the date the notice of protest was filed.

Failure to file a timely notice of protest or failure to file a timely formal written protest petition shall constitute a waiver of protest proceedings.

Any protest filed prior to receipt of the notice of the University of Central Florida Board of Trustees' decision or intended decision will be considered abandoned unless renewed within the time limit provided for protests.

#### **B-22 CONTRACT AWARD**

The Contract will be awarded by the University of Central Florida Board of Trustees, to the qualified, responsive and responsible Bidder with the lowest bid price provided the bid is reasonable and it is in the best interest of the Owner to accept it.

#### **B-23 TIME OF COMPLETION AND LIQUIDATED DAMAGES**

The Work to be performed under this contract shall be commenced within ten (10) calendar days after the date of the Notice to Proceed, unless otherwise indicated on the Notice to Proceed, shall be substantially completed within one hundred twenty (120) calendar days after the date of the Notice to Proceed, and shall be finally completed within thirty (30) calendar days after the date of Substantial Completion or within such other time as identified on the Certificate of Substantial Completion. The date on which the time of construction starts is the date of the Notice to

Proceed. The Notice to Proceed shall be issued within fifteen (15) days of the execution of this Agreement. In the event the Notice to Proceed is not issued within forty five (45) days of the execution of this Agreement, then this Agreement shall be deemed null and void and both parties shall be released of all contractual responsibilities and obligations.

Inasmuch as failure to complete the project within one hundred twenty (120) calendar days from date of the Notice To Proceed will result in substantial injury to the Owner, and as damages arising from such failure cannot be calculated with any degree of certainty, it is hereby agreed that if the Work is not substantially completed (as determined by the Architect/Engineer), or within such further time, if any, as shall be allowed for time extensions in accordance with the provisions of the Contract Documents, the Contractor shall pay to the Owner as liquidated damages for such delay, and not as a penalty, one hundred dollars (\$100) for each and every calendar day elapsing between the date fixed for Substantial Completion and the date such Substantial Completion shall have been fully accomplished. Said liquidated damages shall be payable in addition to any excess expenses or costs payable by the Contractor to the Owner under the provisions of Article 16 of the Agreement, and shall not preclude the recovery of damages by the Owner under other provisions of the Contract Documents, except for Contractor's delays.

If, at the end of thirty (30) calendar days following the date of Substantial Completion, unless otherwise stipulated in Certificate of Substantial Completion, the Work has not been certified as fully completed by the Architect/Engineer or the Contract has not otherwise been fully performed, then Liquidated Damages shall accrue from the date of 30 days from Substantial Completion until such time as the Architect/Engineer certifies the Work has been fully completed and the Contract has been fully performed. The amount of Liquidated Damages per calendar day for this period shall be one hundred dollars (\$100).

The above listed provisions for liquidated damages for delay shall in no manner affect the Owner's right to terminate the Contract as provided in Article 16 of the Agreement or elsewhere in the Contract Documents. The Owner's exercise of the right to terminate shall not release the Contractor from the obligation to pay said liquidated damages.

It is further agreed that the Owner may deduct from the balance retained by the Owner the liquidated damages stipulated herein, or such portion thereof as the retained balance will cover. If the retained balance is not sufficient to cover the amount of Liquidated Damages due from the Contractor, Contractor shall be liable for the difference and shall pay this sum to Owner within thirty (30) days of final completion of the Work.

#### **B-24 SPECIAL CONDITIONS**

Special Conditions are issued as part of this project. Bidders shall be thoroughly familiar with the Special Conditions and their requirements. See Appendix I.

## **B-25 PARTIAL SETS OF BIDDING DOCUMENTS**

Familiarity with the full set of Bidding Documents is recommended to assure that the interface among trades is fully identified. The sale of a partial set of Bidding Documents is predicated upon the buyer having had the opportunity to examine a full set, and having accepted the full responsibility for determining that the purchased partial set provides the information necessary to convey the full requirements as revealed by the complete set. Neither the Owner nor the Architect/Engineer shall be liable for the information revealed on less than complete sets of Bidding Documents.



**PROPOSAL FORM**

Page 1 of 5

FROM: \_\_\_\_\_  
(Bidder's Name)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(FL Corporation Charter Number)

\_\_\_\_\_  
(Federal I.D. Number)

DATE: \_\_\_\_\_

BIDS TO BE OPENED AT: \_\_\_\_\_

TIME: \_\_\_\_\_

PLACE: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

TO: State of Florida  
University of Central Florida  
Board of Trustees

Florida Solar Energy Center  
1679 Clearlake Road  
Cocoa, FL 32922

If the Bidder wishes to make last  
minute modifications to the  
Proposal, the following spaces may  
be used (See B-16)

To the Base Bid,

Add \_\_\_\_\_

Deduct \_\_\_\_\_

To Alternate # \_\_\_\_\_

Add \_\_\_\_\_

Deduct \_\_\_\_\_

The undersigning, hereinafter called "Bidder," having visited the site of the proposed Project and having become familiar with the local conditions, nature and extent of the work, and having examined carefully the drawings and the Project Manual, proposes to furnish all labor, materials, equipment and other items, facilities, and services for the proper execution and completion of Flexible Residential Test Structure (Project #: FI 10FSEC01), in full accordance with the Contract Documents prepared by Michael M. Houston, Architect, 1412 Charta Court, Orlando, FL 32804 in full accordance with the Call for Bids, Instructions to Bidders, Agreement and all other documents relating thereto on file in the Office of the Architect/Engineer and if awarded the Contract, to complete said Work within the time limits specified for the following bid price:

Base Bid \_\_\_\_\_

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_)

with the foregoing as a Base Bid, the following costs of alternate proposals are submitted in accordance with the drawings and specifications. All alternates must be quoted. (See B-8) Unless the Bidder specifically indicates on the Proposal Form that the quotation for the alternate is deductive, all quotations will be considered as additive to the Base Bid.

As set forth in the General Conditions, the University of Central Florida has instituted a direct purchase program, so that when practicable it may save funds on state sales taxes for certain materials that are used or incorporated into the project, and thus the Owner expressly reserves the right to and may at any time remove from the scope of work the purchase of materials to be used

or incorporated into the project. However, the direct purchase of materials by the Owner, if any, will be determined after the contract has been awarded, and a deductive change order will be issued for the appropriate amount. Therefore, the Bidder hereby acknowledges its understanding that the direct purchases for the project, if any, are at the option of the Owner, and hereby states that no reduction has been made in its bid for any potential savings on state sales taxes that the Owner may obtain by making direct purchases, since direct purchases made by the Owner, if any, will be determined after the contract award.

There are no Alternates as part of this project.

There is enclosed a cashier's check, bank draft, or Bid Bond in the amount of not less than five (5) percent of the Base Bid payable to the University of Central Florida Board of Trustees, as a guarantee for the purpose set out in the Instructions to Bidders.

\_\_\_\_\_ Bidder Initial

There is enclosed a list subcontractors

\_\_\_\_\_ Bidder Initial

The Bidder hereby agrees that:

- a. The above Proposal shall remain in full force and effect for a period of forty-five (45) calendar days after the time of the opening of this Proposal and that the Bidder will not revoke or cancel this Proposal or withdraw from the competition within the said forty-five (45) calendar days.
- b. In the event the contract is awarded to this Bidder, the Bidder will enter into a formal written Agreement with the Owner in accordance with the accepted bid within ten (10) calendar days after said Agreement is submitted to the Bidder and will furnish to the Owner a Performance Bond and a Labor and Materials Payment Bond with good and sufficient sureties, satisfactory to the Owner, in the amount of 100% of the accepted bid, on the forms and terms comprising Section F of the Project Manual. The Bidder further agrees that in the event of the Bidder's default or breach of any of the agreements of this Proposal the bid deposit shall be forfeited as liquidated damages.

**PROPOSAL FORM**

Page 3 of 5

- c. Expenditure with minority business enterprises shall be consistent with the requirements set forth in the General Conditions.

Acknowledgment is hereby made of receipt of the following Addenda issue during the bidding period.

Addendum No. \_\_\_\_\_ Dated \_\_\_\_\_

Addendum No. \_\_\_\_\_ Dated \_\_\_\_\_

Addendum No. \_\_\_\_\_ Dated \_\_\_\_\_

Addendum No. \_\_\_\_\_ Dated \_\_\_\_\_

Florida Construction Industries Licensing Board Certification

\_\_\_\_\_  
(Name of Holder) (Certificate Number)

SIGNED AND SEALED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
(Signature)

By: \_\_\_\_\_

Title: \_\_\_\_\_

**Submit your Proposal in its entirety and any additional required documents to:**

**Jim Roland  
Florida Solar Energy Center  
Flex Res Test Str # FI 10FSEC01  
Bid Proposal  
1679 Clearlake Road  
Cocoa, FL 32922**

**By the specified date and time.**

**LIST OF SUBCONTRACTORS FORM**

(This list must be filled out in its entirety and must accompany the Proposal with the Bidder's signature page 2.)

Date: \_\_\_\_\_

This list is attached to, and is an integral part of the Proposal submitted by:

\_\_\_\_\_  
\_\_\_\_\_

(Bidder to insert his full name and address)

For the Construction of:      Flexible Residential Test Structure #FI 10FSEC01  
Florida Solar Energy Center  
1679 Clearlake Road  
Cocoa, FL 32922

The undersigned, hereinafter called "Bidder", lists below the names of subcontractors who will perform the segments of the work indicated. Only one subcontractor shall be listed for each subcontract except where the subcontract may be divided for award by the Bidder in one or more parts. In that event each subdivision shall be identified by the Bidder in the spaces provided below.

	<u>SUBCONTRACT</u>	<u>SUBCONTRACTOR</u>	<u>IDENTIFICATION*</u>
1.	HAVC	_____	_____
2.	PLUMBING	_____	_____
3.	ELECTRICAL	_____	_____
4.	CONCRETE	_____	_____
5.	MASONRY	_____	_____
6.	FINISH CARPENTRY	_____	_____
7.	TRUSS ENGINEER	_____	_____
8.	ROOFING	_____	_____

**PROPOSAL FORM**

### SUBCONTRACTORS FOR ALTERNATES

This section is to be completed ONLY if the Bidder would like to make subcontractor changes dependent upon the Alternates accepted by the Owner.

In the event that the acceptance of alternates would change the Subcontractor(s) listed on the previous page, these changes shall be so noted in the columns for the affected alternates. This shall be done by entering the name of the subcontractor in the appropriate places.

		<u>Alt. #1</u>	<u>Alt. #2</u>	<u>Alt. #3</u>	<u>Alt. #4</u>	<u>Alt. #5</u>
1.	HAVC					
2.	PLUMBING					
3.	ELECTRICAL					
4.	CONCRETE					
5.	MASONRY					
6.	CARPENTRY					
7.	TRUSS ENG.					
8.	ROOFING					

Subdivisions of above:

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

### SUB-DIVISIONS OF THE LISTED SUBCONTRACT

This section is to be filled out ONLY if the Bidder intends to award one of the above listed subcontracts to more than one subcontractor. (List only the subcontractor for each subdivision.)

<u>SUB-DIVISION</u> (Bidder must identify)	<u>SUBCONTRACTOR</u>	<u>IDENTIFICATION*</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

By: \_\_\_\_\_  
Bidder's Signature

STATE OF FLORIDA  
Florida Board of Education,  
Division of Colleges and Universities

### PERFORMANCE BOND

THIS BOND IS ISSUED SIMULTANEOUSLY WITH PAYMENT BOND (FOR LABOR & MATERIALS) IN FAVOR OF THE OWNER CONDITIONED ON THE FULL AND FAITHFUL PERFORMANCE OF THE CONTRACT AS PROVIDED BY SECTION 255.05, F.S.

KNOW ALL MEN BY THESE PRESENTS: that (CM name & address), as Principal, hereinafter called Construction Manager and (Surety name & address), as surety, hereinafter called Surety, are held and firmly bound unto the University of Central Florida on behalf of the Board of Trustees, of the State of Florida, hereinafter called Owner, for the use and benefit of claimants as herein below defined, in the amount of (contract amount), for the payment whereof Construction Manager and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

#### WHEREAS,

Construction Manager has by written agreement dated \_\_\_\_\_ 201\_, entered into a contract with Owner for construction of (project name & university), State Project No. BR-\_\_\_\_, in accordance with Drawings and Specifications prepared by (A/E name & address), which Owner-Construction Manager Agreement is by reference made a part hereof, and is hereinafter referred to as the Agreement.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Construction Manager shall promptly and faithfully perform said Agreement, then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the Owner.

Whenever Construction Manager is in default under the Agreement, and the Owner has performed its obligations there under, the Surety shall promptly remedy the default, in accordance with Section 255.05, Florida Statutes, or shall promptly obtain a bid or bids for completing the Agreement in accordance with its terms and conditions, and arrange for a contract between such bidder and the Surety, and pay as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) the cost of completion less the balance of the Contract Sum; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Contract Sum", as used in this paragraph, shall mean the total amount payable by Owner to Construction Manager under the Agreement and any amendments thereto, less the amount properly paid by Owner to Construction Manager.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrator or successors of the Owner.

SIGNED AND SEALED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_\_.

\*\*\*\*\* **CONSTRUCTION MANAGER** \*\*\*\*\*

As Witnessed By:

\_\_\_\_\_

By:\_\_\_\_\_

Type name and Title

(Construction Manager Name) (Seal)

\*\*\*\*\* **SURETY** \*\*\*\*\*

As Witnessed By:

\_\_\_\_\_

By:\_\_\_\_\_

Resident Agent as Attorney-in-Fact

Type name and Address

(Surety Name) (Seal)

(Power of Attorney attached hereto)

STATE OF FLORIDA  
Florida Board of Education,  
Division of Colleges and Universities

PAYMENT BOND  
(FOR LABOR AND MATERIALS)

THIS BOND IS ISSUED SIMULTANEOUSLY WITH PERFORMANCE BOND IN FAVOR OF THE OWNER CONDITIONED ON THE FULL AND FAITHFUL PERFORMANCE OF THE CONTRACT AS PROVIDED BY SECTION 255.05, F.S.

KNOW ALL MEN BY THESE PRESENTS: that (CM name & address), as Principal, hereinafter called Construction Manager and (Surety name & address), as surety, hereinafter called Surety, are held and firmly bound unto the University of Central Florida, on behalf of the Board of Trustees, of the State of Florida, hereinafter called Owner, for the use and benefit of claimants as herein below defined, in the amount of (contract amount), for the payment whereof Construction Manager and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

WHEREAS:

Construction Manager has by written agreement dated \_\_\_\_\_, 201\_\_, entered into a contract with Owner for construction of (project name, university), State Project No. BR-\_\_\_\_, in accordance with Drawings and Specifications prepared by (name & address of A/E), which Owner-Construction Manager Agreement is by reference made a part hereof, and is hereinafter referred to as the Agreement.

THE CONDITIONS OF THIS BOND are such that:

1. If Construction Manager shall promptly make all payments owing when due to all persons who are defined in Section 713.01, Florida Statutes, whose claims derive directly or indirectly from the prosecution of the Work provided for in the Agreement, then this bond is void; otherwise, it remains in full force and effect.
2. Each said claimant shall have a right of action against the Construction Manager and Surety for the amount due the claimant. No such action shall subject the Owner to any cost, expense, loss or damage, and Construction Manager shall promptly pay Owner for the full measure of all cost, expense, loss, damage, and attorney's fees sustained by Owner as a result of any default by Construction Manager under the Agreement.
3. A claimant, except a laborer, who is not in privity with the Construction Manager shall, before commencing or not later than forty-five (45) days after commencing to furnish labor, materials, equipment or supplies for the prosecution of the Work, furnish the Construction Manager with a notice that the claimant intends to look to the bond for protection. A claimant who is not in privity with the Construction Manager and who has not received payment for labor, materials, equipment or supplies shall deliver to the Construction Manager and to the Surety written notice of the performance of the labor or delivery of the materials, equipment or supplies and of the nonpayment. The notice of nonpayment may be served at any time during the progress of the work or thereafter, but before forty-five (45) days after the first furnishing of labor, services, or materials and not later than ninety (90) days after the final furnishing of the labor, services, or materials by the claimant or, with respect to rental equipment, not later than ninety (90) days after the date that the rental equipment was last on the jobsite available for use. No action for the labor, materials, equipment or supplies may be instituted against the Construction Manager or the Surety after one year from the performance of the labor or completion of the delivery of the materials, equipment or supplies is completed.
4. An action against the Surety or the Construction Manager, or both, may be brought in the county in which the public building or public work is being constructed or repaired or in any other place authorized by the provisions of Chapter 47, Florida Statutes.
5. The amount of this bond shall be changed only to the extent that the Contract Sum is changed in accord with applicable provisions of the Contract For Construction.
6. Neither any change in or under the Contract Documents, nor any compliance or noncompliance with any formalities provided in the Agreement or the change shall relieve the Surety of its obligations under this Bond.



SIGNED AND SEALED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 19\_\_\_\_.

\*\*\*\*\* **CONSTRUCTION MANAGER**\*\*\*\*\*

As Witnessed By: \_\_\_\_\_ (Construction Manager Name)  
(Seal)

\_\_\_\_\_

By: \_\_\_\_\_

\_\_\_\_\_  
Type name and Title

\*\*\*\*\* **SURETY**\*\*\*\*\*

As Witnessed By: \_\_\_\_\_ (Surety Name)  
(Seal)

\_\_\_\_\_

By: \_\_\_\_\_

Resident Agent as Attorney-in-Fact

\_\_\_\_\_  
Type name and Address

(Power of Attorney attached hereto)

# **AIA** Document A105™ – 2007

## **Standard Form of Agreement Between Owner and Contractor for a Residential or Small Commercial Project**

**AGREEMENT** made as of the \_\_\_\_\_ day of \_\_\_\_\_  
in the year \_\_\_\_\_  
*(In words, indicate day, month and year.)*

**BETWEEN** the Owner:  
*(Name, legal status, address and other information)*

UCF and Florida Solar Energy Center  
1679 Clearlake Road  
Cocoa, FL 32922

and the Contractor:  
*(Name, legal status, address and other information)*

Unknown  
1412 Charta Ct  
32804

for the following Project:  
*(Name, location and detailed description)*

Flexible Residential Test Structure  
Florida Solar Energy Center

The Architect:  
*(Name, legal status, address and other information)*

Michael M Houston, Architect  
1412 Charta Ct  
Orlando, FL 32804

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

State or local law may impose requirements on contracts for home improvements. If this document will be used for Work on the Owner's residence, the Owner should consult local authorities or an attorney to verify requirements applicable to this Agreement.

The Owner and Contractor agree as follows.

Init.

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### ARTICLE 1 THE CONTRACT DOCUMENTS

§ 1.1 The Contractor shall complete the Work described in the Contract Documents for the Project. The Contract Documents consist of

- .1 this Agreement signed by the Owner and Contractor;
- .2 the drawings and specifications prepared by the Architect, dated \_\_\_\_\_, and enumerated as follows:

Drawings:

Number	Title	Date
--------	-------	------

Init.

Specifications:

Section	Title	Pages
---------	-------	-------

.3 addenda prepared by the Architect as follows:

Number	Date	Pages
--------	------	-------

.4 written orders for changes in the Work issued after execution of this Agreement; and

.5 other documents, if any, identified as follows:

## ARTICLE 2 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

The number of calendar days available to the Contractor to substantially complete the Work is the Contract Time. The date of commencement of the Work shall be the date of this Agreement unless otherwise indicated below. The Contractor shall substantially complete the Work, no later than

( ) calendar days from the date of commencement, subject to adjustment as provided in Article 10 and Article 11.

*(Insert the date of commencement, if it differs from the date of this Agreement.)*

## ARTICLE 3 CONTRACT SUM

§ 3.1 Subject to additions and deductions in accordance with Article 10, the Contract Sum is:

§ 3.2 For purposes of payment, the Contract Sum includes the following values related to portions of the Work:  
*(Itemize the Contract Sum among the major portions of the Work.)*

Portion of the Work	Value
---------------------	-------

**§ 3.3** Unit prices, if any, are as follows:

*(Identify and state the unit price; state the quantity limitations, if any, to which the unit price will be applicable.)*

Item	Units and Limitations	Price per Unit (\$0.00)
------	-----------------------	-------------------------

**§ 3.4** Allowances included in the Contract Sum, if any, are as follows:

*(Identify allowance and state exclusions, if any, from the allowance price.)*

Item	Price (\$0.00)
------	----------------

**§ 3.5** The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and hereby accepted by the Owner:

*(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)*

**§ 3.6** The Contract Sum shall include all items and services necessary for the proper execution and completion of the Work.

#### **ARTICLE 4 PAYMENT**

**§ 4.1** Based on Contractor's Applications for Payment certified by the Architect, the Owner shall pay the Contractor, in accordance with Article 12, as follows:

*(Insert below timing for payments and provisions for withholding retainage, if any.)*

Init.

§ 4.2 Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate below, or in the absence thereof, at the legal rate prevailing at the place of the Project.

## ARTICLE 5 INSURANCE

§ 5.1 The Contractor shall provide Contractor's general liability and other insurance as follows:  
(Insert specific insurance requirements and limits.)

Type of Insurance	Limit of Liability (\$0.00)
-------------------	-----------------------------

§ 5.2 The Owner shall provide property insurance to cover the value of the Owner's property, including any Work provided under this Agreement. The Contractor is entitled to receive an increase in the Contract Sum equal to the insurance proceeds related to a loss for damage to the Work covered by the Owner's property insurance.

§ 5.3 The Contractor shall obtain an endorsement to its general liability insurance policy to cover the Contractor's obligations under Section 8.12.

§ 5.4 Each party shall provide certificates of insurance showing their respective coverages prior to commencement of the Work.

§ 5.5 Unless specifically precluded by the Owner's property insurance policy, the Owner and Contractor waive all rights against (1) each other and any of their subcontractors, suppliers, agents and employees, each of the other; and (2) the Architect, Architect's consultants and any of their agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance or other insurance applicable to the Work.

## ARTICLE 6 GENERAL PROVISIONS

### § 6.1 THE CONTRACT

The Contract represents the entire and integrated agreement between the parties and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a written modification in accordance with Article 10.

### § 6.2 THE WORK

The term "Work" means the construction and services required by the Contract Documents, and includes all other labor, materials, equipment and services provided, or to be provided, by the Contractor to fulfill the Contractor's obligations.

### § 6.3 INTENT

The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all.

### § 6.4 OWNERSHIP AND USE OF ARCHITECT'S DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS

Documents prepared by the Architect are instruments of the Architect's service for use solely with respect to this Project. The Architect shall retain all common law, statutory and other reserved rights, including the copyright. The Contractor, subcontractors, sub-subcontractors, and material or equipment suppliers are authorized to use and reproduce the instruments of service solely and exclusively for execution of the Work. The instruments of service may not be used for other Projects or for additions to this Project outside the scope of the Work without the specific written consent of the Architect.

## **ARTICLE 7 OWNER**

### **§ 7.1 INFORMATION AND SERVICES REQUIRED OF THE OWNER**

**§ 7.1.1** If requested by the Contractor, the Owner shall furnish all necessary surveys and a legal description of the site.

**§ 7.1.2** Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, the Owner shall obtain and pay for other necessary approvals, easements, assessments and charges.

### **§ 7.2 OWNER'S RIGHT TO STOP THE WORK**

If the Contractor fails to correct Work which is not in accordance with the Contract Documents, the Owner may direct the Contractor in writing to stop the Work until the correction is made.

### **§ 7.3 OWNER'S RIGHT TO CARRY OUT THE WORK**

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies, correct such deficiencies. In such case, the Contract Sum shall be adjusted to deduct the cost of correction from payments due the Contractor.

### **§ 7.4 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS**

**§ 7.4.1** The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project.

**§ 7.4.2** The Contractor shall coordinate and cooperate with the Owner's own forces and separate contractors employed by the Owner.

**§ 7.4.3** Costs caused by delays or by improperly timed activities or defective construction shall be borne by the party responsible therefor.

## **ARTICLE 8 CONTRACTOR**

### **§ 8.1 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR**

**§ 8.1.1** Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

**§ 8.1.2** The Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by the Owner. Before commencing activities, the Contractor shall (1) take field measurements and verify field conditions; (2) carefully compare this and other information known to the Contractor with the Contract Documents; and (3) promptly report errors, inconsistencies or omissions discovered to the Architect.

### **§ 8.2 CONTRACTOR'S CONSTRUCTION SCHEDULE**

The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work.

### **§ 8.3 SUPERVISION AND CONSTRUCTION PROCEDURES**

**§ 8.3.1** The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the Work.

**§ 8.3.2** The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of subcontractors or suppliers for each portion of the Work. The Contractor shall not contract with any subcontractor or supplier to whom the Owner or Architect have made a timely and reasonable objection.

### **§ 8.4 LABOR AND MATERIALS**

**§ 8.4.1** Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work.

**§ 8.4.2** The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract Work. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

**§ 8.5 WARRANTY**

The Contractor warrants to the Owner and Architect that: (1) materials and equipment furnished under the Contract will be new and of good quality unless otherwise required or permitted by the Contract Documents; (2) the Work will be free from defects not inherent in the quality required or permitted; and (3) the Work will conform to the requirements of the Contract Documents.

**§ 8.6 TAXES**

The Contractor shall pay sales, consumer, use and similar taxes that are legally required when the Contract is executed.

**§ 8.7 PERMITS, FEES AND NOTICES**

**§ 8.7.1** The Contractor shall obtain and pay for the building permit and other permits and governmental fees, licenses and inspections necessary for proper execution and completion of the Work.

**§ 8.7.2** The Contractor shall comply with and give notices required by agencies having jurisdiction over the Work. If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume full responsibility for such Work and shall bear the attributable costs. The Contractor shall promptly notify the Architect in writing of any known inconsistencies in the Contract Documents with such governmental laws, rules and regulations.

**§ 8.8 SUBMITTALS**

The Contractor shall promptly review, approve in writing and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents. Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents.

**§ 8.9 USE OF SITE**

The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits, the Contract Documents and the Owner.

**§ 8.10 CUTTING AND PATCHING**

The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly.

**§ 8.11 CLEANING UP**

The Contractor shall keep the premises and surrounding area free from accumulation of debris and trash related to the Work. At the completion of the Work, the Contractor shall remove its tools, construction equipment, machinery and surplus material; and shall properly dispose of waste materials.

**§ 8.12 INDEMNIFICATION**

To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder.

**ARTICLE 9 ARCHITECT**

**§ 9.1** The Architect will provide administration of the Contract as described in the Contract Documents. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

**§ 9.2** The Architect will visit the site at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the Work.



§ 9.3 The Architect will not have control over or charge of, and will not be responsible for, construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's responsibility. The Architect will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents.

§ 9.4 Based on the Architect's observations and evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor.

§ 9.5 The Architect has authority to reject Work that does not conform to the Contract Documents.

§ 9.6 The Architect will promptly review and approve or take appropriate action upon Contractor's submittals, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 9.7 The Architect will promptly interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request from either the Owner or Contractor.

§ 9.8 Interpretations and decisions of the Architect will be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 9.9 The Architect's duties, responsibilities and limits of authority as described in the Contract Documents shall not be changed without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

#### **ARTICLE 10 CHANGES IN THE WORK**

§ 10.1 The Owner, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly in writing. If the Owner and Contractor can not agree to a change in the Contract Sum, the Owner shall pay the Contractor its actual cost plus reasonable overhead and profit.

§ 10.2 The Architect will have authority to order minor changes in the Work not involving changes in the Contract Sum or the Contract Time and not inconsistent with the intent of the Contract Documents. Such orders shall be in writing and shall be binding on the Owner and Contractor. The Contractor shall carry out such orders promptly.

§ 10.3 If concealed or unknown physical conditions are encountered at the site that differ materially from those indicated in the Contract Documents or from those conditions ordinarily found to exist, the Contract Sum and Contract Time shall be subject to equitable adjustment.

#### **ARTICLE 11 TIME**

§ 11.1 Time limits stated in the Contract Documents are of the essence of the Contract.

§ 11.2 If the Contractor is delayed at any time in progress of the Work by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control, the Contract Time shall be subject to equitable adjustment.

#### **ARTICLE 12 PAYMENTS AND COMPLETION**

##### **§ 12.1 CONTRACT SUM**

The Contract Sum stated in the Agreement, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

##### **§ 12.2 APPLICATIONS FOR PAYMENT**

§ 12.2.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment for Work completed in accordance with the values stated in the Agreement. Such Application shall be supported by data substantiating the Contractor's right to payment as the Owner or Architect may reasonably require. Payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment stored, and protected from damage, off the site at a location agreed upon in writing.

§ 12.2.2 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment, all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or other encumbrances adverse to the Owner's interests.

### § 12.3 CERTIFICATES FOR PAYMENT

The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part.

### § 12.4 PROGRESS PAYMENTS

§ 12.4.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner provided in the Contract Documents.

§ 12.4.2 The Contractor shall promptly pay each subcontractor and supplier, upon receipt of payment from the Owner, an amount determined in accordance with the terms of the applicable subcontracts and purchase orders.

§ 12.4.3 Neither the Owner nor the Architect shall have responsibility for payments to a subcontractor or supplier.

§ 12.4.4 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the requirements of the Contract Documents.

### § 12.5 SUBSTANTIAL COMPLETION

§ 12.5.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the Work for its intended use.

§ 12.5.2 When the Work or designated portion thereof is substantially complete, the Architect will make an inspection to determine whether the Work is substantially complete. When the Architect determines that the Work is substantially complete the Architect shall prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish the responsibilities of the Owner and Contractor, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

### § 12.6 FINAL COMPLETION AND FINAL PAYMENT

§ 12.6.1 Upon receipt of a final Application for Payment, the Architect will inspect the Work. When the Architect finds the Work acceptable and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment.

§ 12.6.2 Final payment shall not become due until the Contractor submits to the Architect releases and waivers of liens, and data establishing payment or satisfaction of obligations, such as receipts, claims, security interests or encumbrances arising out of the Contract.

§ 12.6.3 Acceptance of final payment by the Contractor, a subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

## ARTICLE 13 PROTECTION OF PERSONS AND PROPERTY

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs, including all those required by law in connection with performance of the Contract. The Contractor shall take reasonable precautions to prevent damage, injury or loss to employees on the Work, the Work and materials and equipment to be incorporated therein, and other property at the site or adjacent thereto. The Contractor shall promptly remedy damage and loss to property caused in whole or in part by the Contractor, or by anyone for whose acts the Contractor may be liable.

## **ARTICLE 14 CORRECTION OF WORK**

**§ 14.1** The Contractor shall promptly correct Work rejected by the Architect as failing to conform to the requirements of the Contract Documents. The Contractor shall bear the cost of correcting such rejected Work, including the costs of uncovering, replacement and additional testing.

**§ 14.2** In addition to the Contractor's other obligations including warranties under the Contract, the Contractor shall, for a period of one year after Substantial Completion, correct work not conforming to the requirements of the Contract Documents.

**§ 14.3** If the Contractor fails to correct nonconforming Work within a reasonable time, the Owner may correct it in accordance with Section 7.3.

## **ARTICLE 15 MISCELLANEOUS PROVISIONS**

### **§ 15.1 ASSIGNMENT OF CONTRACT**

Neither party to the Contract shall assign the Contract as a whole without written consent of the other.

### **§ 15.2 TESTS AND INSPECTIONS**

**§ 15.2.1** At the appropriate times, the Contractor shall arrange and bear cost of tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities.

**§ 15.2.2** If the Architect requires additional testing, the Contractor shall perform those tests.

**§ 15.2.3** The Owner shall bear cost of tests, inspections or approvals that do not become requirements until after the Contract is executed.

### **§ 15.3 GOVERNING LAW**

The Contract shall be governed by the law of the place where the Project is located.

## **ARTICLE 16 TERMINATION OF THE CONTRACT**

### **§ 16.1 TERMINATION BY THE CONTRACTOR**

If the Architect fails to certify payment as provided in Section 12.3 for a period of 30 days through no fault of the Contractor, or if the Owner fails to make payment as provided in Section 12.4.1 for a period of 30 days, the Contractor may, upon seven additional days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed including reasonable overhead and profit, and costs incurred by reason of such termination.

### **§ 16.2 TERMINATION BY THE OWNER FOR CAUSE**

**§ 16.2.1** The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the subcontractors;
- .3 persistently disregards laws, ordinances, or rules, regulations or orders of a public authority having jurisdiction; or
- .4 is otherwise guilty of substantial breach of a provision of the Contract Documents.

**§ 16.2.2** When any of the above reasons exist, the Owner, after consultation with the Architect, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may

- .1 take possession of the site and of all materials thereon owned by the Contractor, and
- .2 finish the Work by whatever reasonable method the Owner may deem expedient.

**§ 16.2.3** When the Owner terminates the Contract for one of the reasons stated in Section 16.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

**§ 16.2.4** If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the Owner. This obligation for payment shall survive termination of the Contract.

**§ 16.3 TERMINATION BY THE OWNER FOR CONVENIENCE**

The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause. The Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

**ARTICLE 17 OTHER TERMS AND CONDITIONS**

*(Insert any other terms or conditions below.)*

This Agreement entered into as of the day and year first written above.

*(If required by law, insert cancellation period, disclosures or other warning statements above the signatures.)*

\_\_\_\_\_  
**OWNER** *(Signature)*

\_\_\_\_\_  
*(Printed name, title and address)*

\_\_\_\_\_  
**CONTRACTOR** *(Signature)*

\_\_\_\_\_  
*(Printed name, title and address)*

\_\_\_\_\_  
**LICENSE NO.:**

\_\_\_\_\_  
**JURISDICTION:**

Init.

## **APPENDIX I**

### **SPECIAL CONDITIONS**

#### **ARTICLE 1: SPECIAL PRE-QUALIFICATION REQUIREMENTS**

An experienced superintendent with knowledge of the project requirements shall be on-site at all times that work is being performed by the contractor's employees or subcontractors and when any deliveries are being made.

Bidder must demonstrate the successful completion of a minimum of ten (10) single-family residences within the past ten (10) years.

Bidder must complete the CONTRACTOR'S PRE-QUALIFICATION QUESTIONNAIRE (see Appendix J) and return by the specified time and date.

#### **ARTICLE 2: PROJECT DRAWINGS – COPIES FURNISHED TO CONTRACTORS**

The Architect/Engineer will provide the Contractor with seven (7) sets of drawings and seven (7) sets of specifications upon Contract award. If additional sets are required by the Contractor, they will be furnished upon request for the cost of printing and handling.

#### **ARTICLE 3: PROJECT SIGN**

A 4' x 4' sign shall be erected at the site by the Contractor and shall be ¾" exterior grade plywood, mounted on 4" x 4" wood posts (p.t.), located in a prominent location approved by the Architect/Engineer and Owner. The sign shall conform to the size and shape as illustrated in Section H of the Project Manual. Coordinate exact colors, images, and wording requirements with Owner.

#### **ARTICLE 4: FEDERALLY FUNDED PROJECTS**

No Federal Funds are used for this project.

#### **ARTICLE 5: SCOPE OF WORK – TESTING AND RESEARCH FACILITY**

Provide two (2) identically constructed residential buildings for testing purposes. This project consists of two buildings that will be used for side-by-side testing of thermal and moisture gradients throughout the structure and surrounding soils. It is imperative that each and every component of both buildings are identical and installed in an identical manner.

Owner reserves the right to require work that does not match to be removed and replaced to ensure the validity of the test results.

Owner will be installing various instrumentation sensors and wires throughout the building as it is being constructed. Contractor is to coordinate all work schedules with the Owner to accommodate this work effort.

**APPENDIX J**  
**CONTRACTOR'S PRE-QUALIFICATION QUESTIONNAIRE**

Project Title: FLEXIBLE RESIDENTIAL TEST STRUCTURE

Project #: FI 10FSEC01

Location: Florida Solar Energy Center, 1679 Clearlake Rd, Cocoa, FL 32922

Article B-2 of the above captioned Project Manual requires that bidders be pre-qualified to submit proposals. Although you may submit your qualifications in any format of your choosing, you are encouraged to utilize this form as your qualification status will be determined solely upon the information requested herein.

In order to expedite the review of your qualifications, submit them or this completed form to **Jim Roland, Florida Solar Energy Center, Flex Res Test Str, # FI 10FSEC01, Pre-Qualification, 1679 Clearlake Rd, Cocoa, FL 32922 no later than 10:00 am, on May 4, 2010.**

Please note we are only accepting proposals from Florida-Certified Residential, Building, or General Contractors. Do not submit if you are a sub-contractor.

By submitting this Pre-qualification Questionnaire, you acknowledge that its express purpose is to induce the University of Central Florida, Board of Trustees to award a general construction contract for the above titled project to the company/corporation named herein. You further acknowledge that the University of Central Florida, Board of Trustees may -- at its discretion and by means which it may choose -- determine the veracity of all information provided herein.

1. This form is submitted by \_\_\_\_\_ Title \_\_\_\_\_

Company/Corporation \_\_\_\_\_

Address \_\_\_\_\_ Date \_\_\_\_\_

Email Address \_\_\_\_\_

\_\_\_\_\_ this will be used for all notifications including addendums (with a follow-up letter as a hard copy)

2. What are the name, type and number, status, and expiration date of the license number(s) under which the general construction permit will be issued?

\_\_\_\_\_  
\_\_\_\_\_

3. Is your organization currently pre-qualified with any governmental agency? \_\_\_\_\_ If so, please list.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**EXPERIENCE QUESTIONNAIRE**  
(Continued)

4. If a Corporation, answer information below:

Date of incorporation\_\_\_\_\_

In what State\_\_\_\_\_

Florida Corporation Charter Number\_\_\_\_\_

Name of Officers:

President\_\_\_\_\_

Vice President\_\_\_\_\_

Vice President\_\_\_\_\_

Secretary\_\_\_\_\_

Treasure\_\_\_\_\_

If a Partnership or Individual Proprietorship,  
answer information below:

Date of organization\_\_\_\_\_

If a partnership, state whether partnership is  
general, limited association \_\_\_\_\_

Name and Address of Partners:

5. a. How many years has your organization been in the construction business?\_\_\_\_\_

b. How many years under your present business name?\_\_\_\_\_

c. How many years under previous business name? (List other names)

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**SUBSIDIARY OR AFFILIATED COMPANIES  
IN WHICH PRINCIPALS HAVE FINANCIAL INTEREST**

NAME AND ADDRESS OF SUBSIDIARY  
OR AFFILIATED COMPANIES

EXPLAIN IN DETAIL THE  
PRINCIPAL'S INTEREST IN THIS  
COMPANY AND NATURE OF BUSINESS

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## EXPERIENCE QUESTIONNAIRE

(Continued)

### NUMBER OF FULL TIME PERSONNEL WITHIN YOUR ORGANIZATION

	Current	Maximum	Minimum
6. a. Clerical Personnel	_____	_____	_____
b. Engineers & Architects	_____	_____	_____
c. Supervisors, Foremen, or Superintendents	_____	_____	_____
d. Skilled Employees including Technicians	_____	_____	_____
e. Unskilled Employees	_____	_____	_____
f. Estimators	_____	_____	_____
g. Total number of full time personnel	_____	_____	_____

### 7. WHAT IS THE CONSTRUCTION EXPERIENCE OF THE PRINCIPALS AND SUPERVISORY PERSONNEL OF YOUR ORGANIZATION? (Asterisk any personnel to be assigned to project being bid.)

PRINCIPAL'S NAME	TITLE	YEARS OF CONSTRUCTION EXPERIENCE	IN WHAT CAPACITY AND WITH WHOM
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

8. SUPERVISORY PERSONNEL	TITLE	YEARS OF CONSTRUCTION EXPERIENCE	IN WHAT CAPACITY AND WITH WHOM
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

### 9. Within the previous 3 years has your organization or predecessor organizations ever failed to complete a project? If so, state name of organization and reason.

_____
_____



# **EXPERIENCE QUESTIONNAIRE** (Continued)

10. List the 10 most recently *completed* **single-family detached residential** projects (as contractor of record) completed by your organization within the previous 10 fiscal years. Place most recent project as the first project and list by date in descending order. Use additional sheets as needed.

#	Project (or Owner's) Name and Full Address	Description of Project	Name of On-Site Superintendent	Original Contract Price		Completion Dates:		
					Final Contract Price	Original	Revised	Actual

## **EXPERIENCE QUESTIONNAIRE**

(Continued)

With reference to all contracts completed by your organization in the previous fiscal years, as listed in item 10, answer the following questions:

11. Explain differences in original contract price and in completion dates, if any.

12. Were there any liquidated damages, penalties, liens, defaults or cancellations imposed or filed against your organization?

If so, list the name and location of the project as shown in Column A, and explain.

13. Provide the name, credentials, and experience of the proposed On-Site Superintendent for this project:

# RESIDENTIAL ARCHITECTURAL SPECIFICATIONS

Owner:

**Florida Solar Energy Center  
1679 Clearlake Road  
Cocoa, FL 32922**

**Contact: Jim Roland @ 1-321-638-1500**

Project:

**Flexible Residential Test Structure  
Florida Solar Energy Center  
1679 Clearlake Rd  
Cocoa, FL 32922**

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## **DIVISION 00 00 00. PROCUREMENT AND CONTRACTING REQUIREMENTS**

### **00 00 00 – Scope Of Work**

Provide two (2) identically constructed residential buildings for testing purposes. This project consists of two buildings that will be used for side-by-side testing of thermal and moisture gradients throughout the structure and surrounding soils. It is imperative that each and every component of both buildings are identical and installed in an identical manner.

Owner reserves the right to require work that does not match to be removed and replaced to ensure the validity of the test results.

Owner will be installing various instrumentation sensors and wires throughout the building as it is being constructed. Contractor is to coordinate all work schedules with the Owner to accommodate this work effort.

### **00 26 00 - Procurement Substitution Procedures**

Contractor to investigate proposed products to be substituted and determine that they are equal or superior in all respects to the products specified. Contractor to highlight the pertinent information on relevant product information sheets and submit them with their Bid. Architect will review and determine acceptance of such proposed products. If product is not accepted, then Contractor agrees to provide the specified product with no changes to their Bid amount.

After Notice to Proceed is issued, no substitutions will be allowed.

Coordinate installation of accepted substitutions into the Work, making such changes as may be required for the Work to be complete in all respects.

## **DIVISION 01 00 00. GENERAL REQUIREMENTS**

### **01 00 00 – On-Site Supervision**

An experienced superintendent with knowledge of the project requirements shall be on-site at all times that work is being performed by the contractor's employees or subcontractors and when any deliveries are being made.

### **01 50 00 - Temporary Facilities and Controls**

This work shall consist of the application of temporary measures throughout the life of the project.

### **01 51 00 - Temporary Utilities**

All connections and extensions required to provide temporary utilities shall be made by the Contractor at the Contractor's expense.

### **01 51 13 - Temporary Electricity**

Contractor to provide and install temporary power for construction site. Connect to existing power service without disrupting local service requirements. Power feeder service characteristics shall be compatible with the service from which it is taken. Size, type and loading shall be per requirements as established by the National Electric Code (NEC). The contractor shall provide main service disconnect and over-current protection at a convenient location in accordance with the NEC. The Contractor shall provide

power outlets for construction operations, with branch wiring and distribution boxes located as necessary and shall provide flexible power cords as required. Provide and install distribution equipment, wiring and outlets to provide single phase branch circuits for power and lighting.

#### **01 51 26 - Temporary Lighting**

Contractor to provide and install temporary lighting for construction site. Provide and install temporary lighting in all work areas sufficient to maintain a lighting level during working hours not less than the lighting level required by OSHA standards. As permanent lighting facilities are completed, they may be used in lieu of temporary facilities. Provide temporary lighting as required to satisfy safety and security requirements. Maintain a minimum illumination level of 30 foot-candles measured 3 ft. above floor in areas where finish trades are performing work. At exterior areas, provide 1 foot-candle of light after dark for security purposes.

#### **01 51 36 - Temporary Water**

Contractor to provide and install temporary water for construction site. Connect to an existing water source for construction operations.

#### **01 52 00 - Construction Facilities**

Field offices and sheds shall be portable or mobile buildings, or buildings constructed with floors raised above the ground, securely fixed to foundations, with steps and landings at entrance doors. Structurally sound, secure, weather tight enclosures for office and storage spaces shall be maintained during progress of work and removed at completion of work. Size of field offices and sheds shall depend on contractors needs. Install appropriate fire extinguisher. HVAC shall be adequate to maintain comfortable conditions. At completion of work, all temporary facilities shall be removed and area restored to new condition.

#### **01 52 19 - Sanitary Facilities**

Existing facilities shall not be used. Contractor shall provide and maintain in a neat and sanitary condition such accommodations for the use of his employees as will comply with laws and regulations. Temporary toilet facilities may consist of portable toilets. The number shall be based on number of workers, 1 toilet per 15 workers. Toilet facilities shall be kept supplied and clean and in sanitary condition until the completion of the work and then shall be removed from the site. Upon removal the site shall be properly cleaned and graded.

#### **01 53 00 - Temporary Construction**

The contractor shall provide and maintain for duration of work all required temporary stairs, ladders, ramps, runways and hoists for use of all trades.

#### **01 54 00 - Construction Aids**

The contractor to provide all construction aids needed during construction which shall include but not limited to; elevators, hoists, cranes, etc.

#### **01 54 23 - Temporary Scaffolding and Platforms**

The contractor shall provide and maintain for duration of work all required temporary standing scaffolding. 'Independent tied' scaffolds will normally be provided for painting, pointing or other maintenance work.

**01 55 00 - Vehicular Access and Parking**

Construct and maintain temporary roads accessing public thoroughfares to serve construction area. Arrange parking areas to accommodate construction personnel. Do not allow vehicle parking on existing pavement. When site space is not adequate provide additional off-site parking.

**01 56 00 - Temporary Barriers and Enclosures**

The contractor shall provide barriers to prevent unauthorized entry into construction areas and to protect existing facilities and adjacent properties from damage from construction operations and demolition. Install barricades and covered walkways required by governing authorities for public right of ways. Install chain link fence around job site.

**01 57 00 - Temporary Controls**

This work shall consist of the application of temporary measures throughout the life of the project to control erosion and siltation. Such measures shall include, but are not limited to, the use of berms, dikes, dams, sediment basins, fiber mats, silt fences, straw bales, washed gravel or crushed stone, mulch, grasses, slope drains, temporary seeding and other methods. Temporary erosion and siltation control measures as described herein, shall be applied to erodible material exposed by any activity associated with the construction and consistent with state and local control standard.

**01 58 00 - Project Identification**

Within 15 days after the commencement of work, provide one 4' x 4' project identification sign at a location as directed by Owner. Maintain sign throughout the life of the project. On the sign, list two points of contact by name and telephone number. Coordinate additionally required information with and approval by the Owner.

**01 60 00 - Product Requirements**

All materials shall be installed in strict accordance with the manufacturer's written specifications or Material's Institute Standards. Where the manufacturer's recommended details are used, the manufacturer shall be responsible for the performance of their product. All items not specifically mentioned that are required to make the work complete and operational shall be included.

**01 63 00 - Installation and Storage** - All materials, supplies and equipment shall be installed per manufacturer's recommendations and per applicable codes and requirements. Material stored on site shall be protected from damage by moisture, wind, sun, abuse or any other harmful effects.

**01 64 00 - Owner-Furnished Products**

Contractor is not responsible for products furnished by the owner that are damaged prior to opening or receiving. Additional work required to install owner furnished products will be charged to the owner and due upon installation.

**01 70 00 - Execution and Closeout Requirements**

The execution of all work shall be in strict accordance with these specifications and manufacturer's written specifications or Material's Institute Standards. Where the manufacturer's recommended details are used, the manufacturer shall be responsible for the performance of their product. All work not specifically mentioned that is required to make the work complete and operational shall be included.



**Codes** - Construction shall comply with all applicable national, state and local building codes. It is the responsibility of the Contractor to insure compliance with said codes.

**Measurements** - The Contractor shall check and verify all dimensions and conditions before proceeding with construction. Do not scale drawings. Noted dimensions take precedence.

**Workmanship** - Workmanship shall conform to the best and highest standards of quality in each trade and shall include all items of fabrication, construction and installation. All work shall be completed by skilled tradesmen and mechanics. Installation of all equipment and materials shall be in strict accordance with manufacturers recommendations.

**Insurance** - Builders Risk Insurance shall be maintained by the contractor during the course of construction until final acceptance by the owner. All bonding and insurance requirements shall be coordinated with the Owner prior to beginning construction. All contractors shall provide and be solely responsible for necessary barricades and safety precautions, and strictly adhere to all governing codes on safety, including the OSHA Act.

#### **01 74 00 - Cleaning and Waste Management**

Construction site to be in a clean and orderly condition throughout the construction process. Clean interior spaces prior to the start of finish painting and the application of other finishes. At the conclusion of construction, the project shall be properly cleaned. This should include but not be limited to; cleaning the interior and exterior glass, surfaces exposed to view, remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surface areas, sweep and mop all tiled surfaces, etc. Replace filters of operating equipment. Clean equipment and fixtures to a sanitary condition. Clean exterior such as debris from roof, gutters, landscape areas, driveways and walks, etc. Remove all waste and surplus materials.

#### **01 76 00 - Protecting Installed Construction**

Contractor to protect all installed construction. If products or materials come with a protective coating, contractor shall maintain protective coating until construction is complete. Contractor shall replace any items that become defective or damaged.

### **DIVISION 02 00 00. EXISTING CONDITIONS**

#### **02 00 00 - Existing Conditions**

Contractor shall review construction documents and provide necessary site work, excavation and grading as required to construct said project.

#### **02 41 00 - Demolition**

Provide all labor, materials and equipment to perform the required demolition of existing pavement no longer needed for access or parking, abandoned utilities and structures which interfere with the proposed construction. Install chain link fencing around the area of demolition work. Protect all adjacent areas not to be demolished. Remove all debris from job site before construction begins.

**02 80 00 - Facility Remediation**

Contractor to abate any hazardous material or substance before beginning construction. Contractor shall contract with a properly licensed and qualified hazardous material contractor.

**02 81 00 - Transportation and Disposal of Hazardous Materials**

Remove and dispose of any hazardous material before beginning construction. Contractor shall contract with a properly licensed and qualified hazardous material contractor.

**DIVISION 03 00 00. CONCRETE****03 00 00 - Concrete**

Contractor shall review construction documents and provide labor and materials pertaining to concrete and foundations as required in said documents and as specified herein, while complying with all applicable building codes.

**03 05 00 - Common Work Results for Concrete**

All concrete work shall be designed on the basis of "Strength Design" in accordance with ACI 318 "Building Code Requirements for reinforced Concrete." Concrete work shall be proportioned in accordance with ACI 301 "Specifications for Structural Concrete" and ACI 211.1 "Recommended Practice for Selecting Proportions for Normal Weight Concrete".

Concrete slabs, patios, driveways, and poured cells in walls shall be constructed of a minimum 3000 psi concrete, 28 day test, with a 4" minimum to 6" maximum slump maximum, air-entrained to 5 - 8%.

No additional water shall be added to concrete after slump test is recorded. Cylinders shall be taken from every batch truck and tested for compressive strength at 7 and 28 days. Concrete should be a mix of high grade Portland cement, clean sand or granular fill and washed gravel or crushed stone as coarse aggregate per ACI 530. Maximum aggregate size shall be  $\frac{3}{4}$ ". All aggregates shall conform to ASTM C33. Gravel should be well graded and not exceed 1  $\frac{1}{2}$ " in size. Water shall not exceed 5  $\frac{1}{2}$  gallons for each bag, unless sand is very dry. Concrete shall be mixed using an approved batch machine or mobile mixer until uniform in color and providing the 4" minimum to 6" maximum slump.

**03 10 00 - Concrete Forming and Accessories**

Provide all labor, materials and equipment necessary for the completion of the plain and reinforced concrete called for on the plans. Concrete when deposited shall have a temperature ranging between a minimum of 50 degrees Fahrenheit and a maximum of 90 degrees Fahrenheit.

**Construction of Forms** - Construct wood forms of sound material, and of the correct shape and dimensions, constructed tightly and of sufficient strength. Brace and tie the forms together. Make joints and seams mortar tight. Install leakage control materials in accordance with manufacturer's installation instructions.

**Chamfered Corners** - Unless otherwise noted, provide chamfered corners on all exposed corners. Provide 3/4 inch moldings in forms for all chamfering required.

**Embedded Items** - make provisions for sleeves, anchors, inserts, water-stops and other features.

**Form Ties** - Use form ties of sufficient strength and in sufficient quantities to prevent spreading of the forms. Place ties at least 1 inch away from the finished surface of the concrete. Do not use ties consisting of twisted wire loops. Leave inner rods in concrete when forms are stripped. Space all form ties equidistant and symmetrical and line up both vertically and horizontally.

**Cleanouts and Access Panels** - Provide removable cleanout sections or access panels at the bottom of all forms to permit inspection and effective cleaning of loose dirt, debris and water material. Clean all forms and surfaces to receive concrete of all chips, sawdust, and other debris and thoroughly blow out with compressed air just before concrete is placed.

### **03 15 13 - Concrete Accessories**

Provide 1/2" thick by 4" wide bituminous expansion joint material at all surfaces where slabs adjoin raised slab, crawlspace or basement stem-wall CMU or poured foundations.

### **03 21 00 - Reinforcing Steel**

Reinforcing steel (rebar) shall be minimum ASTM A615, grade 60 deformed bars. All reinforcement splices shall be as follows: #5 bars 25" minimum, #7 bars 35" minimum. All rebar (reinforcing steel) shall be located 3" clear from bottom and side of footing and 2" clear from top. Locate vertical rebar (reinforcing steel) 4'-0" on center (OC). All reinforcement splices shall be in accordance with ACI 318 for "Strength Design." All reinforcement steel shall be accurately placed, rigidly supported, and firmly tied in place with bar supports and spacers in accordance with ACI 301 and ACI 318.

### **03 22 00 - Welded Wire Fabric Reinforcing**

Welded wire fabric shall conform to ASTM A105 and be located in the center of the depth. Install at slab on grade conditions.

### **03 30 00 - Footings**

Center all footings on walls, piers, or columns above unless otherwise noted. All footings shall rest on undisturbed virgin soil with minimum soil bearing allowable of 2000 psf, tested for 97 percent compaction, or 3/4" stone compacted in 12" lifts to 97 percent density if fill is required. Footings at building perimeter shall be constructed of 4000 psi concrete. Provide 2 - #5 rebar (reinforcing steel) continuous through footers. Provide #5 rebar (reinforcing steel) corner bars at all corners and intersections of footers, beams and walls. Each side should overlap 2'-0", with a 90 degree bend. Footers shall bear on undisturbed soil and kept free from ground water.

### **03 30 01 - Slabs**

Concrete floor slabs shall be constructed of 3000 psi concrete, 4" thick reinforced with 10 gauge 6" x 6" welded-wire mesh continuous and rebar (reinforcing steel) as per plans. Place slabs over well-compacted granular fill compacted in 12 inch lifts to 97

percent density per AASHTO T-180 Proctor, and a 6 mil polyethylene vapor barrier. Construction or control joints shall be provided in slabs as shown in the drawings. Provide smooth steel trowel finish for all interior slab areas and garage surfaces. Provide broom finish texture for all exterior slabs. Slope exterior patio or porch slabs away from building at 1/4" of drop in elevation for every 1'-0" in distance. At garage slab, provide positive drainage and taper lip at garage/overhead door.

### **03 35 00 - Concrete Finishing**

Repair of surface defects shall begin immediately after removal of form or pouring of slab foundation. Provide smooth steel trowel finish for all interior slab areas and garage surfaces. Provide broom finish texture for all exterior slabs. Slope exterior patio or porch slabs away from building at 1/4" of drop in elevation for every 1'-0" in distance. At garage slab, provide positive drainage and taper lip at garage/overhead door. Patch all voids and depressions exceeding 3/8 inch in any direction.

## **DIVISION 04 00 00. MASONRY**

### **04 00 00 - Masonry**

Contractor shall review construction documents and provide labor and materials pertaining to masonry work as required in said documents and as specified herein, while complying with all applicable building codes.

### **04 01 20.52 - Unit Masonry Cleaning**

Dry brush masonry surface at the end of each day's work and after final pointing using wire brushes to remove mortar but exercise care not to scratch or damage work. For final cleaning, schedule at least seven days after the masonry is completed. Remove larger mortar particles by hand with wooden paddles and non-metallic scrape hoes or chisels. Protect metal, glass, wood, limestone and cast stone surfaces. Mask or otherwise protect windows, doors, and ornamental trim from cleaning solutions. Presoak or saturate the area to be cleaned. Flush with water from the top down. Starting at top apply the cleaning solution based on the type of masonry installed. Use a long handled stiff fiber brush or other type as recommended by the cleaning solution manufacturer. Allow the solution to remain on the brick for 10 minutes. Rise thoroughly. Flush walls with large amounts of clean water from the top to bottom before they can dry.

### **04 05 13 - Masonry Mortaring**

Mortar shall be Type "M" or "S" in accordance with ASTM C270, 2500 psi. Grout shall be in accordance with ASTM C270, Type M, 2500 psi concrete using pea gravel for coarse aggregate with a maximum aggregate size of 3/8" and an 8" minimum to 11" maximum slump.

Mortar joints shall be 3/8" thick, finished to produce a *concave* form on all horizontal joints and a *flush* form on all vertical joints.

Mortar or grout not used within 2 1/2 hours after mixing shall not be used in masonry work. In hot weather add water as needed to supplement evaporation losses. In cold weather, when air temperatures range between 32 degrees and 40 degrees Fahrenheit, heat mixing water or aggregate to between 70 degrees and 160 degrees Fahrenheit

maximum. When air temperature is below 32 degrees Fahrenheit heat both the missing water and aggregate to between 70 degrees and 160 degrees Fahrenheit maximum.

#### **04 22 00 - Concrete Unit Masonry**

Shall be in accordance with ASTM C90 or C145, 1500 psi compressive strength, grade N, Type 1, hollow core load bearing CMU and shall have a minimum net compression strength of 1900 psi. Use Grade N, type 1, specialty shapes load bearing concrete masonry units as specified. Standard width of mortar joints for both horizontal and vertical joints shall be 3/8 inch. Joints shall have a full mortar coverage. Lay CMU plumb with all courses level using appropriate corner blocks at corners, window and door jambs. Reinforcing mesh shall be installed in the three courses above all openings and shall extend 3 feet 9 inches beyond each side of opening. Mesh shall be installed in every third course of all masonry unit walls. Cut block with a carborundum saw. Use solid load-bearing block when required for structural purpose.

### **DIVISION 05 00 00. METALS**

#### **05 00 00 - Metals**

Contractor shall review construction documents and provide labor and materials pertaining to metal work as required in said documents and as specified herein, while complying with all applicable building codes.

Continuous drip edge shall be 6" wide 0.40 Kynar Aluminum Drip Edge (white).

Vented Soffit shall be made of 3105 or equivalent aluminum alloy, H28 or equivalent hardness, Thickness: 0.024" nominal, Color: White. Shall meet performance requirements of AAMA 1402-86 aluminum

### **DIVISION 06 00 00. WOOD, PLASTICS, AND COMPOSITES**

#### **06 00 00 - Wood, Plastics, and Composites**

Contractor shall review construction documents and provide labor and materials pertaining to carpentry work as required in said documents and as specified herein, while complying with all applicable building codes.

#### **06 10 00 - Rough Carpentry**

Lumber shall be of live, sound stock and properly dried. Pressure treated lumber shall be used where any lumber shall come into contact with concrete, masonry block or soil and when using as support members for decks, porches or balconies. Lumber for use at exterior shall have a maximum 12 percent moisture content. Provide adequate bracing and shoring during the construction process. Studs and joists cut to install plumbing and/or wiring shall be reinforced by adding metal or wood structural reinforcing to strengthen member back to original capacity and maintain structural integrity. Holes bored shall not be larger than 1/3 the depth and not closer than 2" to the top or bottom of the joist.

**Wood Species:** #2 Southern Yellow Pine or Douglas Fir.

**Pressure Treated (PT) Wood:** Shall be treated with a metal-free, organic (carbon-based), waterborne preservative such as Wolmanized L3 Outdoor or equal.

## **06 11 00 - Wood Framing**

**Fascia and Soffit** - Provide and install aluminum ventilated soffit (See Metals). See construction documents for complete architectural details. Wood fascia board shall be a 1"x 10" S4S cedar set on 2"x 8" PT sub-fascia structure.

### **Interior Walls**

All interior walls shall be finger-joint wood studs, with single bottom plates and double top plates throughout. Provide solid blocking at mid-height of all walls which exceed 9'-0" in height.

### **Roof Framing**

See Truss Engineer's Drawings and Specifications.

Provide two (2) each Simpson HETA anchors at each truss attached with 10 - 16D non-corrosive fasteners.

**Roof Decking** - Provide and install exterior sheathing of APA rated and code certified 19/32" rated plywood sheathing, Exposure 1. Sheathing shall be installed with the face grain running across the rafters, vertical joints staggered. Nails shall be 8D or 10D (at gable ends) common smooth, ring-shank or spiral thread nails spaced 6" apart on the edges and 12" apart inside. Install with plywood "H" clips between each piece of decking, every 48".

Install one layer of self-adhering membrane for moisture protection. Install additional strip of self-adhering membrane underneath the metal drip edge and wrapping around the front of the sheathing materials.

### **06 16 00 - Sheathing**

In attic, provide and install 19/32" rated plywood sheathing, Exposure 1 on top of bottom chord of truss and at walkway bracing. For plywood panels, use 6d nails spaced 6" apart on the edges and 12" apart on the framing.

### **06 20 00 - Finish Carpentry**

All architectural trim and woodwork shall be No. 1 grade material suitable for appropriate finishes. Wood that will be stained shall be clear of knots with concealed joints.

### **06 22 00 - Millwork**

Moisture content for interior woodwork shall be 8-10 percent to reduce excess shrinking. Provide and install interior wood trim as shown in construction documents.

**Base Molding:** EC467 by East Coast Mouldings (or equal) 1 1/16" x 5 1/4"

**Window and Door Casing:** EC1A by East Coast Mouldings (or equal) 1" x 3 1/2"

## **DIVISION 07 00 00. THERMAL AND MOISTURE PROTECTION**

**07 00 00 - Thermal and Moisture Protection**

Contractor shall review construction documents and provide labor and materials pertaining to thermal and moisture protection work as required in said documents and as specified herein, while complying with all applicable building codes.

**07 10 00 - Dampproofing and Waterproofing**

All joints and penetrations in walls, floors, and roofs shall be made watertight using approved methods and materials. Waterproofing and dampproofing recommendations contained herein are minimum, check with local code officials for additional requirements.

**Slab Foundations** - Install a minimum (6 mil) polyethylene vapor barrier in all slabs, directly underneath concrete. Lap joints not less than 12 inches and tape and seal in accordance with manufacturers guidelines. Apply Tremco acoustic sealant at all laps and all penetrations.

**07 13 13 – Self Adhered Membrane**

On all roof surfaces install a self adhering rubber waterproof membrane such as Ice and Water Shield by Grace Construction Products (or equivalent). Overlap membrane a minimum of 4" vertically and 12" horizontally. Continue membrane 6" up all vertical surfaces and 4" over gutter and valley metal. Lay courses parallel with eaves. Do not stretch courses.

**07 20 00 - Thermal Protection**

This is a building research test facility and so no wall insulation is incorporated:

**Exterior Walls** – None.

**Interior Walls (between garage and interior space)** - Install 3 1/2", R-13 friction fit unfaced batt insulation.

**Ceilings** - Attic insulation shall be 6", R-19 fiberglass batt.

**07 31 13 - Asphalt Shingles**

Provide and install the following shingles:

**Asphalt shingles shall be:** GAF-Elk Timberline® □ Prestique® 40 HD □ Cool Color Series □ Energy-Efficient Architectural Shingles. Color: Cool Weatherwood

**07 46 00 - Siding**

Provide and install siding exterior in accordance with applicable building codes and manufacturers guidelines.

**Fiber Cement Siding** - Install 50 year warranty horizontal fiber cement siding as specified in construction documents. Siding shall be straight and flat against building. Install an air infiltration barrier (with a drainage plane – such as Tyvek Commercial Wrap D or equivalent) between the sheathing and siding. When installing siding horizontally, joints should be blocked and butt joints caulked or concealed with batten strips. Provide all necessary starter strips, wedges, corner detailing, etc. required by manufacturer and as stated in construction documents.

**Width:** 6 1/4" (5" exposure)  
**Siding:** Lap  
**Texture:** Select Cedarmill  
**Detailing:** Shiplap  
**Finishes:** Pre-primed, Artic White  
**Fiber Cement Siding:** Hardiplank Lap Siding by James Hardie or equal

**Porch Ceiling** – 1/4" thick, 4'x8' sheet of HardieSoffit Beaded Porch Panel or equal

#### **07 60 00 - Flashing and Sheet Metal**

Install appropriate flashing at all joints of chimneys, dormers, walls, vent pipes and other connection points to prevent the infiltration of water. Flashing shall be assembled of 26 gauge minimum galvanized, corrosion resistant sheet metal. Valleys shall be wrapped with 20" wide galvanized flashing and extend 10" in each direction from center-line of valley. Use 4"wide x 4"high x 10'long galvanized flashing between wall siding and roof surfaces and step flashing between masonry and roof surfaces. Keep flashing concealed except where exposed on vertical surfaces or counter flashing.

#### **07 71 23 - Manufactured Gutters and Downspouts**

Install 6" wide continuous aluminum gutters and 5" downspouts. Attach every 2'-6" on center (OC) with straps and/or fasteners.

#### **07 92 00 - Joint Sealants**

Use a 50 year warranty silicon based caulk (max VOC = 100g/L) at high expansion/compression areas. For exterior windows, door frames, interior trim, woodwork and other paintable surfaces use a colored Latex based caulk (max VOC = 100g/L). Color shall match metal frame or paint.

### **DIVISION 08 00 00. OPENINGS**

#### **08 00 00 - Openings**

Contractor shall review construction documents and provide labor and materials pertaining to the doors and windows as required in said documents and as specified herein, while complying with all applicable building codes. In all sleeping areas provide an operable egress standard window or door directly to exterior.

#### **08 11 01 - Exterior Doors**

All exterior doors shall be pre-hung, solid core wood, insulated and swing inside with weather-tight thresholds. Install white weather-stripping around all doors.

**Front Door** – Six panel wood door. Provide necessary hardware per door schedule below.

**Style:** Solid Core Wood, Six Panel  
**Material:** Birch  
**Specify:** Paint Finish



**Standard Exterior Door** - Fiberglass, insulated six-panel, 1 3/4" thick, with full weather-stripping and metal, threshold. Provide necessary hardware per door schedule below.

**Location:** Garage Entry  
**Style:** Six Panel by ThermaTru or equal  
**Material:** Fiberglass  
**Specify:** Paint finish

#### **08 14 00 - Interior Doors**

Interior doors shall be pre-hung split-jamb units, including casing on both sides of the door. Casing shall be finger joint for paint finish.

##### **Standard Interior Door:**

**Style:** Solid Core Wood, Six Panel  
**Material:** Birch  
**Specify:** Paint Finish

**Interior Door Frames** - Install pre-hung split-jamb units with interior casing, finger joint for paint finish.

#### **08 31 00 - Attic Access Stair**

Install a 22"w x 54"d aluminum access door as shown on construction documents. Trim opening with appropriate window casing to match interior trim. Confirm size of opening meets local building codes for attic access.

**Manufacturer:** American Stairways Model 800 Husky Aluminum Stairway for 10' ceiling height (or equal).

For 4' x 4' (nominal) opening, provide cover and trim only. Cover to be 5/8" gypboard adhered to 19/32" rated plywood sheathing. Adhere 4" polyisocyanurate rigid panel to backside of plywood.

#### **08 32 00 - Sliding Glass Doors**

Aluminum frame, single pane glass door. Install aluminum track and rollers with weather-tight thresholds. Provide necessary hardware per door schedule below.

**Style:** Double sliding units with insect screen  
**Glazing options:** Clear Glazing  
**Insulation options:** Single  
**Material:** Aluminum  
**Specify:** Winguard French Door Series FD101 (or equal), Size: 6080, Lites: One, Color: White

**Interior casing:** finger joint for paint finish.

#### **08 36 00 - Panel Doors (Garage)**

Install Overhead 16'-0" wide x 9'-0" high insulated fiberglass, metal or steel garage/overhead door with electric opener and dual remote control units. Install weather-stripping around each door opening.

**Garage/Overhead doors:**

*Brief Description:* Pre-finished Insulated Steel Garage Door

*Drawing Key:* See Door Schedule

*Manufacturer:* Clopay Building Products (or equal)

*Product Name:* Premium Series, 2" thick, R-9.0, WindCode

*Model Number:* CG 11 with REC13 windows

*Size:* 2" Thick x 16' wide x 9'-0" high

*Finish:* 4 Layer, Color – White. No exterior hardware.

*Note:* All glazing to be Impact Resistant, Insulating Glass, Low E II – Air (unless argon filled is available at no extra charge). Install 1/2hp, chain drive, AC opener with motion detector in wall button for light.

**08 50 00 - Windows**

Confirm that openings are compliant with all applicable building codes concerning egress, lighting and ventilation requirements. Temper all glass located within 2'-0" from exterior doors, all glass in doors and above tub enclosures. Provide and install necessary windows and appropriate hardware to operate and lock windows. Bedroom windows shall comply with Code requirements for emergency escape with appropriate egress hardware. Minimum net clear opening shall be 5.7 sq.ft., minimum net clear width shall be 20", minimum net clear height shall be 24" and sill height shall not exceed 41" above floor. Hardware Finish shall be: white. Consult window and glazing schedule below.

**Specify windows:**

**Frame:** aluminum

**Style:** single hung

**Glazing options:** Clear Glazing

**Insulation options:** Single Pane

**Specify:** Winguard Single Hung Series SH701 (or equal), Size: Modular 3453 or Pair 3453, Lites: One, Color: White

**Interior casing:** finger joint for paint finish.

**08 51 66 - Metal Window Screens**

Exterior frames shall be a white finish with joints welded and sanded smooth. Wire mesh shall be fiberglass. Screens will be installed for easy removal as recommended by manufacturer's guidelines.

**08 71 00 - Door Hardware**

Finish hardware shall include keyed deadbolt locksets at all exterior doors. Interior doors shall be a combination of privacy and passage locks. All exterior locksets shall be keyed the same.

**Specify:** Yale - Falcon T-511LD YAL 626, 98535 latch, 5164 strike entrance lockset with the Falcon626-GA-0 Bit. Coordinate with Owner.

**08 71 01 - Door Hardware - Thresholds**

Provide and install brushed aluminum thresholds and appropriate door sweeps at exterior doors.

#### **08 75 00 - Window Hardware**

Finish hardware shall include locksets at all exterior windows. Install as specified by manufacturer.

### **DIVISION 09 00 00. FINISHES**

#### **09 00 00 - Finishes**

Contractor shall review construction documents and provide labor and materials pertaining to the finishes as required in said documents and as specified herein, while complying with all applicable building codes.

#### **09 29 00 - Gypsum Board**

Gypsum board must be held firmly against the framing while fastening to avoid later movement of gypsum board on the shank of the nails or screws.

**Nails or Screws:** Nails and screws shall be a minimum 3/8" and a maximum of 1/2" from edges and ends of wallboard and the heads shall be seated slightly below the surface without breaking the paper. Nails shall be spaced not to exceed 7" on ceilings or 8" on sidewalls. Head diameter shall be a nominal 1/4" with the length 1 1/2" to penetrate a minimum of 7/8" into nailing member. Nails shall meet the minimum requirements of ASTM C514 and may include coated, etched treated or annular ring shanks to improve withdrawal resistance. Drywall screws shall meet the minimum requirements of ASTM C1002. Bugle-shaped heads shall be 0.315" in nominal diameter and contain a No. 2 Phillips driving recess. Type "W" screws are designed for easier fastening in wood.

**Joints:** At gypsum wallboard joints install a 2" strong, cross threaded tape with a cross tensile strength of 45 lbs per lineal inch. Press a strong, good quality tape firmly onto sheathing joints and around openings, imbedded in joint cement. At corners and angles, install metal corner beads as specified by manufacturer. If corners are rounded, install corner reinforcement as required. Spread gypsum wallboard mud at all tape joints, corner beads, nails and screw penetrations and where a smooth surface is needed. Apply second coat of wallboard mud after a minimum 24 hours. After drying (minimum 48 hours), sand all joints and other areas to a smooth consistent surface.

**Interior Walls:** Sheath walls and ceilings with 1/2" Glass Mat Facing Gypsum Board – paper free\_gypsum wallboard. DensArmor Plus Paperless Interior Panel by G-P Gypsum (or equal)

Offset joints between layers at least 10". Nails are spaced 6" on center (OC) with 1 1/4" heads. Screws are spaced 12" on center (OC). Wall finish shall be "smooth".

**Ceilings:** Apply a single layer of 5/8" Glass Mat Facing Gypsum Board – paper free\_gypsum wallboard. DensArmor Plus Paperless Interior Panel by G-P Gypsum (or equal).

Offset joints between layers at least 10". Nails are spaced 6" on center (OC) with 1 1/4" heads. Screws are spaced 12" on center (OC). Ceiling finish shall be "knockdown".

**Water Resistant Gypsum Wallboard:** Around showers, tubs, whirlpools, or as required by applicable building codes, install 1/2" or 5/8" (ceiling) Glass Mat Facing Tile Backer Board – paper free. DensShield Tile Backer panel by G-P Gypsum (or equal).

#### **09 60 00 - Flooring**

Contractor shall properly clean all floor surfaces to prepare them for finished flooring installed by others.

#### **09 70 00 - Ceiling and Wall Finishes**

Walls shall be clean and free of defects such as cracks or unfinished joints prior to installation of wall finishes. If mildew is evident, source of mildew must be identified and corrected and mildew must be removed and surface properly treated to inhibit further mildew growth (or surface replaced at the Owners discretion).

#### **09 90 00 - Painting and Coating**

All painted surfaces shall receive three coats – a primer coat and two finish coats.

See finish Schedule on Sheet A101

#### **09 91 13 - Exterior Painting**

All nail heads shall be set below the surface and finished smooth. If mildew is evident, the mildew must be removed and surface treated to inhibit further mildew growth. Exterior walls shall receive a primer coat and two coats of flat or semi-gloss paint. Pre-prime the backside, edges and ends of lumber and siding prior to construction. Sand and putty wood surface smooth before finish is applied. Surfaces shall be sanded before each finish layer is applied.

**Paint/Stain** - Prime wood surfaces including faces, edges and ends before installation. After installation, apply at least one coat of wood primer and two coats of finish paint.

**Exterior Surfaces:** Use Benjamin Moore Aura Exterior Line of low VOC (<48g/L) paints. Finish and Colors to be selected by Owner.

#### **09 91 23 - Interior Painting**

All nail heads shall be set below the surface and finished smooth. Joints should be taped and covered with a suitable drywall joint compound. Sand the spackled nail heads and joint compound smooth and dust well before priming. Interior walls shall receive a primer coat and two coats of flat or semi-gloss paint. Surfaces shall be sanded before each finish layer is applied.

**Interior Surfaces:** Use Benjamin Moore Natura line of zero VOC paints. Eggshell for walls, semi-gloss for trim and ceiling. Color: #872 White Christmas.

### **09 97 23 - Concrete and Masonry Coatings**

Allow masonry, concrete and stucco to age at least one month before cleaning or applying a finish. Remove dirt, grease, loose particles, etc. Where efflorescence has occurred, wash with a 10% muriatic solution, rinse thoroughly with clean water and allow to thoroughly dry at least one week before painting or sealing.

**Exterior Surfaces:** Use Benjamin Moore Aura Exterior Line of low VOC (<48g/L) paints. Finish and Colors to be selected by Owner.

## **DIVISION 10 00 00. SPECIALITIES**

### **10 00 00 - Specialties**

Contractor shall review construction documents and provide labor and materials pertaining to the specialties as required in said documents and as specified herein, while complying with all applicable building codes.

### **10 10 00 – Ridge Vents**

Install 40-year warranty Cobra Rigid Vent 3 by GAF-ELK (or equal) as shown on the drawings.

### **10 20 00 – Hurricane Shutters**

Install 10-year warranty, 14.25" x 2" profile clear polycarbonate or Lexan corrugated hurricane panels on all windows and sliding glass door openings. Mount horizontally and attach with permanently imbedded stainless steel anchors at 12" oc. Extend 4" beyond edge of opening. Acceptable products are manufactured by Transparent Protection Systems (TPS) or General Electric Company (UV rated Lexan XL-10).

## **DIVISION 11 00 00. EQUIPMENT**

### **11 00 00 - Equipment**

Contractor shall review construction documents and provide labor and materials pertaining to the equipment as required in said documents and as specified herein, while complying with all applicable building codes.

## **DIVISION 12 00 00. FURNISHINGS**

### **12 00 00 - Furnishings**

All furnishings provided by the Contractor shall be incorporated in the Designer's Contract Documents or Construction Documents. Unless specifically directed otherwise by the Project Manager, the Designer shall incorporate the following furnishings in the Contract Documents, to be provided by Contractor

### **12 30 00 - Casework**

Install pre-fabricated cabinetry as specified in construction documents. Dimensions of base cabinets shall be: 24" deep x 36" high. Dimensions of overhead cabinets shall be: 12" deep x 42" high. Provide concealed cabinet hardware. Finish to be chrome. Knob to be standard chrome pull handle

**Cabinet:** Kitchenmaid, Square Recessed Panel - Veneer Maple, Standard base cabinet (1 drawer/1door) with pull out tray at bottom.

### **12 36 00 - Countertops**

Quartz counter tops shall be provided and installed per construction documents and finish schedules. Counter surfaces shall be glued onto 3/4" plywood or appropriate substrate as recommended by manufacturer. Edges shall be installed per construction documents and finish schedules. Provide minimum 4" backsplash of same material between counter and wall.

**Countertop:** Simulated quartz by Silestone. Edge: Bullnose, Color: Grey Expo.

## **DIVISION 31 00 00. EARTHWORK**

### **31 10 00 - Site Clearing**

The area of clearing shall be maintained within the limits shown on the appropriate site plans. Remove stumps and matted roots to a depth of 24 inches below existing ground surface. Dispose of trees and shrubs in accordance with applicable garbage, refuse or weeds ordinance. Do not burn materials on site

**Soil Bearing** - Foundation designs are based on a soil bearing value of 2000 psf. Foundations and slabs are designed to uniformly bear on well-compacted, well-drained non-expansive soils. A certified soils engineer shall test the soils, review foundation designs and building loads and compare with subsurface soil investigation.

Should on-site testing show unsuitable soils, then immediately contact the Architect for direction.

### **31 11 00 - Clearing and Grubbing**

Clear and grub the construction site. Grade building site level (using cut and fill technique) before adding appropriate soils as fill. Existing trees to remain shall be marked prior to clearing and protected to prevent damage. If any damage is done to walkways, driveways, etc, needed repairs shall be provided by the contractor. Repair or replace any damaged vegetation or terrain that is indicated to be protected or is more than eight feet from the edge of any construction.

### **31 20 00 - Earth Moving**

Base of footings shall extend down to undisturbed virgin soil which has been compacted to 95 percent proctor density. All excavation shall be to a level below existing demolition debris. Board form all footing as required by soil conditions.

**At slab foundations,** compact sub-grade under slabs to a minimum 97% density. Compact backfill areas not under slabs or foundation to a minimum 90% ASTM D-689. Sub-base directly under concrete slabs on grade shall be a minimum of four inches of compacted granular fill.

**31 22 00 - Grading**

Carefully remove loam and topsoil to be incorporated in the finished work and store separate from the other excavated material. Failure to isolate loam and topsoil from the other excavations shall require that said soils not be used as topsoil.

When excavations are to be made in paved surfaces, remove pavement so as to provide a clean, uniform edge with a minimum disturbance of remaining pavement. Do not mix pavement with other excavated material unless it is broken into pieces measuring 3 inches or less. Dispose large pieces of pavement away from the site of the work immediately.

**31 22 13 - Rough Grading**

Prior to commencement of earthwork, perform such soil and rock removal and filling as may be required to facilitate the progress of the work and bring all elevations to the rough grade lines indicated on the Contract Documents. Fill or backfill as required.

**31 22 19 - Finish Grading**

Keep exterior finished grade (top of grass, mulch, etc...) a minimum of 6" below finished floor elevation (see construction documents for exact locations) by backfilling with appropriate soils. Provide swales with positive outfall and slope grade away from building to allow water to drain away from the building foundation. Do not backfill against foundation until project is completely framed and roof structure is in place.

**31 23 00 - Excavation and Fill**

Backfill material to be used from the excavations shall be of such nature that after it has been placed and properly compacted, it will make a dense, stable fill. It shall not contain vegetation, masses of roots, stones over 1/2 inch in diameter, or porous matter and shall not be saturated. Organic matter shall not exceed minor quantities and shall be well distributed.

**31 23 16 - Excavation**

Carry out the excavation, dewatering, sheeting and bracing in such manner as to eliminate any possibility of undermining or disturbing the foundations or any existing structure or any work previously completed.

Excavate pipe trenches to the necessary depth as shown on plans. Trenches over 3 feet in depth shall be properly sloped, shored, braced or otherwise supported in conformance with the OSHA Construction Safety and Health Standards.

Excavate trenches to provide a uniform and continuous bearing and support for the pipe and appurtenant structures on solid and undisturbed ground and at the specified grade at every point.

Excavation for structures and pipelines shall include the disposal of materials unsuitable for reuse for backfill. Excavation activities shall include the stockpiling of suitable materials which shall be incorporated into the project at a later date of different location.

**31 23 19 - Dewatering**

At all times during construction - provide, place and maintain ample means and devices with which to remove promptly all water entering trenches and other excavations. Keep excavations dry until the structures, pipes and appurtenances to be built therein have been completed and backfilled. Dispose of all water pumped or drained from the work

without interference with other work, traffic or injury to public or private property. Prevent siltation of storm water facilities or receiving waterways.

### **31 23 23 - Select Borrow**

Material needed in addition to that available from construction operations shall be defined as select borrow. Select borrow shall consist of durable natural granular material or granular aggregates mixed or blended with sand, stone dust, soil or other filler materials to provide a well graded mixture meeting the requirements herein specified.

These materials shall be free from vegetable or organic matter, lumps or an excessive quantity of clay or other objectionable or foreign substances.

The size and gradation of the material shall range from stone no larger than 2 inches across its maximum dimension to soil passing a No 200 sieve. The gradation shall be well dispersed through the borrow.

### **31 23 23.13 - Backfill**

Correct any part of the trench bottom excavated below the specified grade with approved materials and thoroughly compact.

Complete all backfilling to the dimensions and levels shown on the construction documents. Where excavated material or any portion thereof is deemed unsuitable for backfilling material, procure and place approved select borrow materials.

Backfill as promptly as is consistent with non-damage to the installed structures. Do not place frozen material in the backfill.

No material shall be placed or compacted when it is too wet or frozen or when the sub-grade or previously placed material is too wet or frozen.

### **31 25 00 - Erosion and Sedimentation Controls**

Clear the top layer of soil and place in a designated area for use at the end of the project. Provide swales with positive outfall, and slope grade away from building to allow water to drain away from the foundation. Backfill around building with subsoil graded free of lumps larger than 6", rocks larger than 2" and debris. Keep finished grade (top of grass, mulch, etc...) elevations a minimum of 6" below finished floor elevation (see construction documents for exact locations. Do not backfill against foundation, until home is completely framed and roof structure is in place.

### **31 31 16 - Termite Control**

Foundations shall be pre-treated under all slabs with Termidor (or equal). Treatments shall not be made when soil is excessively wet or after heavy rains. Contractor shall provide a one-year renewable warranty.

### **31 50 00 - Excavation Support and Protection**

Install excavation support systems for safety preservation of existing improvements. Design criteria of support systems shall consider all loads in a manner which will allow the safe and expeditious construction of permanent structures without movement or settlement of the ground.



## **DIVISION 32 00 00. EXTERIOR IMPROVEMENTS**

### **32 01 90 - Operation and Maintenance of Planting**

All plants shall be kept in healthy, growing condition by replacement of dead or dying plants where necessary, by watering, weeding, cultivating, pruning, spraying, trimming, protection from wind, and by performing any other necessary operations or maintenance for a period of 90 days or until acceptance of the planting at the time of the final inspection. A final weeding of all plant areas shall be made immediately prior to final inspection. Newly planted trees shall be pruned as necessary. All dead branches shall be removed. Rootstock shoots from grafted material shall be removed.

### **32 01 90.13 - Fertilizing**

Commercial fertilizer to mix with backfill soil shall be ammonium phosphate 16-20-0 applied at twenty (20) pounds actual nitrogen per 1000 square feet (12.5 pounds of ammonium phosphate applied to each 1000 square foot area). Fertilizer will be applied for sodding areas disturbed by clearing operations. Spread soil conditioners and fertilizers and thoroughly incorporate by rototilling work into topsoil to a depth of 4". Rake topsoil until the surface is finely pulverized and smooth.

### **32 13 13 - Concrete Pads and Walks**

Provide sidewalk consisting of a 4" thick slab on sub-grade compacted to 97 percent density with 3000 psi concrete. Consult site plan for additional information. Expansion joints shall be installed as in standard concrete practices. Control joints shall be installed at 6' on center no later than 12 hours after installation.

**For color, texture, and imprinting:** While the concrete is still in a plastic state, apply the desired pattern to the surface. Tools shall be properly stamped into the surface to achieve desired texture. Seal as required. See site plan for additional information.

**Texture:** broom texture

### **32 91 13 - Soil Preparation**

Do not plant until finish grades are established and planting areas are properly prepared and graded. When preliminary grading, including weeding and fertilizing, has been completed and the soil may be readily worked, grade all planting areas to a smooth, even and uniform plane with no abrupt change in surface. Slope soil areas adjacent to buildings away from the buildings, and direct surface drainage as indicated on the drawings. Grading shall provide for natural runoff of water without low spot or pockets. Finish grade of earth in landscaped areas shall be 3 1/2 inches below the top of adjacent pavement, curbs or headers.

### **32 91 19.13 - Topsoil Placement and Grading**

A three (3") inch cover of topsoil or appropriate soil amendment shall be spread uniformly over the soil (9 yards per 1000 sq. ft.) and tilled into the top six (6") inches of soil. Topsoil shall be a natural, fertile, friable soil, typical of productive soil in the vicinity, obtained from naturally well drained areas. Rototill all areas indicated on plans and on areas damaged by construction, to depth of 4", removing stumps, all foreign objects and stones larger than one inch diameter. Place topsoil on all areas and incorporate by rototilling into subsoil.

**32 92 23 - Sodding**

Plant only certified Bahia sod only when the soil is moist and favorable for growth. Shape the area to be sodded and finish to the lines and grades indicated by the Owner on all areas disturbed during construction. Leave areas for future planting. Coordinate with Owner - who will install plants and trees at a later date.

Loosen the surface prior to placing sod. Keep the grade moist by sprinkling, if necessary, sod on the prepared surface with the edges in close contact. Each piece of sod laid shall be fitted and tamped into place with hand tampers not less than one hundred square inches in area. Apply a sufficient quantity of water to all sod after laying and to prevent the sod from drying out for a period at least two weeks to ensure growth.

**DIVISION 33 00 00. UTILITIES****33 00 00 - Utilities**

Install necessary utility services, such as electricity, water, gas and oil, sanitary sewerage and support structures for power and communications. Coordinate requirements with local utility providers. All utilities shall be located underground from street to building, unless otherwise stated. See Engineer's Site Plans.