



## Robertson County Tennessee

*Jody Stewart, Finance Director*

*Finance Department*

*523 South Brown Street, Springfield, TN 37172*

*(615) 384-0202 Fax (615) 384-0237*

POST DATE: **April 3, 2019**

**BID 1414: DETENTION CENTER ROOF REPLACEMENT PROJECT**

Pre-Bid Meeting: April 17, 2019 at 2:00 P.M. CST (see details below)

Sealed bids must be received by: **APRIL 30, 2019 at 10:00 A.M. CST**

at

Robertson County Finance Office

523 South Brown Street

Springfield, TN 37172

**THE OUTSIDE OF THE ENVELOPE MUST BE MARKED WITH THE BIDDER'S COMPANY NAME, ITEM BID, TIME OF BID OPENING, DATE OF BID OPENING, BID NO. 1414 AND MUST BE MARKED "SEALED BID, DO NOT OPEN."**

Bids shall be opened and read aloud to the public at the Robertson County Finance Office, 523 S. Brown Street, Springfield, TN 37172 immediately following the bid receipt deadline. Each bid must be submitted in a separate sealed envelope with the appropriate notation on the outside. All bids must be signed by an authorized agent and submitted on the prescribed forms. Submission of bids by telegraph, telephone, or other electronic means is strictly prohibited. Any proprietary items offered for bid must be equivalent as to function, basic design, type and quality of material, method of construction, and any required dimensions as required in plans with no restrictions or exclusions.

**A non-mandatory pre-bid meeting will be conducting at the project site at 2 p.m. on April 17, 2019.** Pre-bid meeting will begin at Rear Access to Robertson County Detention Facility (311 5<sup>th</sup> Ave., Springfield, TN 37172) **Advance notification is requested for the pre-bid coordination with [jason.reynolds@csrengineers.com](mailto:jason.reynolds@csrengineers.com).** For assistance with technical / product information contact CSR Engineering, Inc., 1116 Main St., Pleasant View, TN 37146 (615-247-5381). For assistance with bid procedures contact Taylor Tomblin, Robertson County Finance Office at (615) 384-0202 or by email: [ttomblin@robcotn.org](mailto:ttomblin@robcotn.org).

**Note: Robertson County reserves the right to reject any or all bids, to waive any technicalities or informalities, and to accept any bid deemed in the best interest of the County. All bids will be considered in accordance with Title VI and without regard to age, sex, color, race, creed, national origin, religious persuasion, marital status, political belief, or disability that does not prohibit the performance of duty.**

## **INFORMATION FOR BIDDERS**

BIDS will be received by The Robertson County Finance Department (herein after called the "OWNER"), at 523 South Brown Street, Springfield, TN 37172 until 10:00 A.M. (Central Standard Time) April 30, 2019, and then at said office will be publicly opened and read aloud.

Each BID must be submitted in a sealed envelope, addressed to the OWNER at Springfield, Tennessee. Each sealed envelope containing a BID must be plainly marked on the outside as BID for DETENTION CENTER ROOF REPLACEMENT PROJECT and the envelope should bear on the outside the name of the BIDDER, his address and his contractor's license number, if applicable. If forwarded by mail, the sealed envelope containing the BID must be enclosed in another envelope addressed to the OWNER at Springfield, Tennessee. All BIDS must be made on the required BID form. All blank spaces for BID prices must be filled in, in ink or typewritten, and the BID form must be fully completed and executed when submitted. Only one copy of the BID form is required.

Should there be reasons why the contract cannot be awarded within the specified period; the time may be extended by mutual agreement between the OWNER and the BIDDER.

The BIDDER shall have been engaged, for at least five (5) years, and properly experienced in the business of performing the type work required on the PROJECT and hold the appropriate classification of a Tennessee contractor's license.

Bidder must clearly be a manufacturer's certified installer at time of bidding, hold a current Robertson County Business License (at time of contracting) and must provide proof of automobile insurance, liability insurance and workers' compensation insurance. Robertson County assumes no liability for accidents incurred to bidder's employees while on the job site.

The BIDDER shall furnish to the OWNER all such information and data as the OWNER may request, to assist the OWNER in determining the ability of the BIDDER to perform the WORK.

BIDDERS must satisfy themselves of the accuracy of the estimated quantities of work in the Bid Schedule by examination of the site and a review of the drawings and specifications including any issued ADDENDA. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of WORK or of the nature of the WORK to be done.

The CONTRACT DOCUMENTS contain the provisions required for the construction of the PROJECT. Information obtained from an officer, agent, or employee of the OWNER or any other person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve him from fulfilling any of the conditions of the contract.

The party to whom the contract is awarded will be required to execute the Agreement and obtain the performance bond and labor and material payment bond within ten (10) calendar days from the date when NOTICE OF AWARD is delivered to the bidder. The NOTICE OF AWARD shall be accompanied by the necessary Agreement and project bond forms. In case of failure of the BIDDER to execute the Agreement, the OWNER may at his option consider the BIDDER in default, in which case the BID bond accompanying the proposal shall become the property of the OWNER.

The OWNER within ten (10) days of receipt of acceptable performance bond, labor and material payment bond, and Agreement signed by the party to whom the Agreement was awarded shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the BIDDER may by written notice withdraw his signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the OWNER.

The NOTICE TO PROCEED shall be issued within ten (10) days of the execution of the Agreement by the OWNER. Should there be any reasons why the NOTICE TO PROCEED cannot be issued within such period; the time may be extended by mutual agreement between the OWNER and CONTRACTOR. If the NOTICE TO PROCEED has not been issued within the ten (10) day period mutually agreed upon, the CONTRACTOR may terminate the Agreement without further liability on the part of either party.

The OWNER reserves the right to reject any BID if the evidence submitted by, or investigation of, such BIDDER fails to satisfy the OWNER that such BIDDER is properly qualified to carry out the obligations of the Agreement and to complete the WORK contemplated herein.

A conditional or qualified BID will not be accepted.

Award will be made as a whole to one BIDDER.

## **SCOPE OF WORK**

Contractor shall provide all labor, material, tools, equipment, and supervision necessary to remove and legally dispose existing roof and insulation material and complete the installation, including all necessary components of new insulation, trim, flashing, walls, closures, sealants and miscellaneous details of approximately 22,000 Square Feet of Single Ply KEE Roof System (ASTM 6754) for the Robertson County Detention Facility, located at 507 S. Brown Street, Springfield, TN 37172. See also the attached 2019 drawings defining existing conditions and required scope of work.

## **BASIS OF AWARD**

The AWARD of the CONTRACT will go to the lowest responsible BIDDER.

All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout.

Each BIDDER is responsible for inspecting the site and for reading and being thoroughly familiar with the CONTRACT DOCUMENTS. The failure or omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from any obligation in respect to his BID.

The ENGINEER is:                      CSR Engineering, Inc.  
   1116 Main St.  
   Pleasant View, TN 37146  
   (615-247-5381)

**BID FORM**

Proposal of \_\_\_\_\_ (hereinafter called "BIDDER"), organized and existing under the laws of the State of \_\_\_\_\_, doing business as \_\_\_\_\_\* to the County of Robertson (Springfield, TN) (hereinafter called "OWNER").

*\*Insert a corporation, a partnership, or an individual as applicable.*

In compliance with your Advertisement for Bids, BIDDER hereby proposes to perform all WORK for the construction of DETENTION CENTER ROOF REPLACEMENT PROJECT in strict accordance with the CONTRACT DOCUMENTS, within the time set forth herein, and at the prices stated below.

By submission of the BID, BIDDER certifies, and in the case of a joint BID each party thereto certifies as to his own organization, that this BID has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this BID with any other BIDDER or with any competitor.

BIDDER hereby agrees to commence work under this contract on or before a date to be specified in the NOTICE TO PROCEED and to fully complete the PROJECT within 90 consecutive calendar days thereafter. BIDDER also agrees to complete all work in a manner so as not to adversely affect the daily operation of the existing detention center

**BID FORM CONT'D**

facility. BIDDER further agrees to pay as liquidated damages, the sum of \$500 for each calendar day in which he is in default of the 90 days stipulated above.

BIDDER acknowledges receipt of the following ADDENDUM (A):

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BIDDER agrees to perform all the work described in the CONTRACT DOCUMENTS for the following lump sum price:

for the **Project** total of

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

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\_\_\_\_\_ Dollars.

(Amount shall be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)

The above lump sum, total price for the project shall include all labor, materials, shoring, removal, overhead, profit, insurance, etc. to cover the finished work of the several kinds called for.

Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informality in the bidding. The Bidder agrees that this bid shall be good and may not be withdrawn for a period of 60 calendar days after the scheduled closing time for receiving bids. Upon receipt of written notice of the acceptance of this bid, Bidder

**BID FORM CONT'D**

will execute a formal Agreement and deliver a Surety Bond or Bonds and Insurance Certificates as defined in the attached bid documents.

The undersigned Bidder does hereby declare and stipulate that this bid is made in good faith, without collusion or connection with any other person or persons bidding for the same work, and that it is made in pursuance of and subject to all the terms and conditions of the Bid Documents and Specifications, and the Plans pertaining to the work to be done.

The bid security attached in the sum of (5% of bid, including both add alternatives):

\_\_\_\_\_ (\$ \_\_\_\_\_ )  
shall become the property of the Owner in the event the Agreement, Bond and Insurance are not executed or delivered within the time above set forth as liquidated damages for the delay and additional expense to the Owner caused thereby.

Respectfully submitted:

\_\_\_\_\_  
Prime Contractor Signature

Name: \_\_\_\_\_

Company: \_\_\_\_\_

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

Business Address: \_\_\_\_\_

\_\_\_\_\_

Contractor's License No: \_\_\_\_\_

License Expiration Date: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Email Contact: \_\_\_\_\_

**BID BOND**

**KNOW ALL MEN BY THESE PRESENTS**, that we, the undersigned, \_\_\_\_\_  
\_\_\_\_\_ as PRINCIPAL, and \_\_\_\_\_  
\_\_\_\_\_ as Surety, are hereby held and firmly  
bound unto The County of Robertson (Springfield, TN) as **OWNER** in the penal sum of  
\_\_\_\_\_ for the payment of which, well and  
truly to be made, we hereby jointly and severally bind ourselves, successor and assigns.

Signed, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

The Condition of the above obligation is such that whereas the PRINCIPAL has submitted  
to Robertson County a certain Bid, attached hereto and hereby made a part hereof to  
enter into a contract in writing, for the DETENTION CENTER ROOF REPLACEMENT  
PROJECT.

**NOW, THEREFORE,**

- a. If said BID shall be rejected, or in the alternate,
- b. If said BID shall be accepted and the PRINCIPAL shall execute and deliver a contract  
in the Form of Contract attached hereto (properly completed in accordance with  
said BID) and shall furnish a bond for his faithful performance of said contract, and  
for the payment of all persons performing labor or furnishing materials in  
connection therewith, and shall in all other respects perform the agreement created



by the acceptance of said **BID**, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such Bid; and said Surety does hereby waive notice of any such extension.

**IN WITNESS WHEREOF**, the PRINCIPAL and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper offices, the day and year first set forth above.

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Surety

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

**IMPORTANT** – Surety companies executing bonds must appear on the Treasury Department’s most current list (Circular 570 as amended) and be authorized to transact business in the State of Tennessee where the project is located.

DRUG-FREE WORKPLACE AFFIDAVIT

The undersigned, principal officer of \_\_\_\_\_, an employer of five (5) or more employees contracting with Robertson County, Tennessee government to provide construction services, hereby states under oath as follows:

1. The undersigned is a principal officer of \_\_\_\_\_ (hereinafter referred to as the "Company"), and is duly authorized to execute this affidavit on behalf of the Company.
  
2. The Company submits this Affidavit pursuant to T.C.A. § 50-9-113, which requires each employer with no less than five (5) employees receiving pay who contracts with the state or any local government to provide construction services to submit an affidavit stating that such employer has a drug-free workplace program that complies with Title 50, Chapter 9, of the *Tennessee Code Annotated*.
  
3. The Company is in compliance with T.C.A. § 50-9-113.

\_\_\_\_\_  
**Authorized Signature, Title (Owner/ Corporate Officer)** **Date**

\_\_\_\_\_  
**Printed Name**

\_\_\_\_\_  
**Company Name**

\_\_\_\_\_  
**Mailing Address**

\_\_\_\_\_  
**Telephone No.** **Fax No.**

\_\_\_\_\_  
**Witness Signature** **Date**

\_\_\_\_\_  
**Witness printed name**

Robertson County, Tennessee  
NON-COLLUSION AFFIDAVIT

The agent of the bidding firm hereby certifies to the best of his/her knowledge and belief that this bid proposal to Robertson County, Tennessee has not been prepared in collusion with any other seller of similar products. The agent also certifies that the prices, terms and conditions of said bid proposal have not been communicated by the undersigned, nor by any employee or agent of the bidding firm, to any other seller of similar products and will not be communicated to any such seller prior to the official opening of said bid. The agent further states that no official or employee of Robertson County Government has promised any personal financial or other beneficial interest, either directly or indirectly in order to influence award of this bid.

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**Authorized Signature, Title (Owner/ Corporate Officer)**

**Date**

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**Printed Name**

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**Company Name**

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**Mailing Address**

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**Telephone No.**

**Fax No.**

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**Contact preferred email address**

**AGREEMENT**

**THIS AGREEMENT**, made this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_, by and between The County of Robertson (Springfield, TN), hereinafter called "OWNER" and \_\_\_\_\_ doing business as (an individual,) or (a partnership,) or (a corporation) hereinafter called "CONTRACTOR".

**WITNESSETH:** that for an in consideration of the payments and agreements hereinafter mentioned:

1. The CONTRACTOR will commence and complete the construction of the DETENTION CENTER ROOF REPLACEMENT PROJECT.
2. The CONTRACTOR will furnish all of the material, supplies, tools, equipment, labor and other services necessary for the construction and completion of the project described herein.
3. The CONTRACTOR will commence the work required by the CONTRACT DOCUMENTS on or before a date to be specified in the NOTICE TO PROCEED and shall complete the work within bid document requirements for consecutive calendar days and all stated requirements thereafter.
4. The CONTRACTOR agrees to perform all the WORK described in the CONTRACT DOCUMENTS for the sum of \$\_\_\_\_\_.
5. The term "CONTRACT DOCUMENTS" means and includes the following:
  - A. Advertisement For Bids
  - B. Information For Bidders

- C. Bid
- D. Bid Bond
- E. Agreement
- F. General Conditions
- G. Supplemental General Conditions
- H. Payment Bond
- I. Performance Bond
- J. Notice of Award
- K. Notice to Proceed
- L. Change Orders
- M. DRAWINGS and SPECIFICATIONS prepared or issued by CSR Engineering, Inc. dated March 2019.
- N. ADDENDA:
  - No. \_\_\_\_\_, dated \_\_\_\_\_, 20\_\_
  - No. \_\_\_\_\_, dated \_\_\_\_\_, 20\_\_
  - No. \_\_\_\_\_, dated \_\_\_\_\_, 20\_\_
  - No. \_\_\_\_\_, dated \_\_\_\_\_, 20\_\_

6. The OWNER will pay to the CONTRACTOR in the manner and at such times as set forth in the General Conditions such amounts as required by the CONTRACT DOCUMENTS.

7. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

**IN WITNESS WHEREOF**, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in two (2) (number of copies) each of which shall be deemed an original on the date first above written.

**OWNER:**

\_\_\_\_\_

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

Name: \_\_\_\_\_

(Please Type)

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

**ATTEST:**

\_\_\_\_\_

Name: \_\_\_\_\_

(Please Type)

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

**CONTRACTOR:**

\_\_\_\_\_

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

Name: \_\_\_\_\_

(Please Type)

Address: \_\_\_\_\_

**(SEAL)**

**ATTEST:**

\_\_\_\_\_

Name: \_\_\_\_\_

(Please Type)

Address: \_\_\_\_\_

**LABOR AND MATERIAL PAYMENT BOND**

**KNOW ALL MEN BY THESE PRESENTS:** that

\_\_\_\_\_ (Name of Contractor)

\_\_\_\_\_ (Address of Contractor)

a \_\_\_\_\_, hereinafter called  
(Corporation, Partnership, or Individual)

PRINCIPAL, and \_\_\_\_\_ (Name of Surety)

\_\_\_\_\_ (Address of Surety)

hereinafter called SURETY, are held and firmly bound unto **The County of Robertson (Springfield, TN) located at 523 Brown Street, Springfield, Tennessee 37172**

hereinafter called OWNER, in the penal sum of \_\_\_\_\_ Dollars, \$ ( \_\_\_\_\_ ) in lawful

money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successor and assigns, jointly and severally, firmly by these presents.

**THE CONDITION OF THIS OBLIGATION** is such that whereas, the PRINCIPAL entered into a certain contract with the OWNER, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ a copy of which is hereto attached and made a part hereof for construction of: DETENTION CENTER ROOF REPLACEMENT PROJECT.

**NOW THEREFORE**, if the PRINCIPAL, shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

**PROVIDED, FURTHER**, that the said SURETY, for value received hereby stipulates and agrees that no change, extension of time, alternation or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any wise affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alternation or addition to the terms of the contract or to the work or to the specifications.

**PROVIDED, FURTHER**, that no final settlement between the OWNER and the PRINCIPAL shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.



**IN WITNESS WHEREOF**, this instrument is executed in two (2) counterparts, each of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_

**ATTEST:**

\_\_\_\_\_  
Principal

\_\_\_\_\_  
(Principal) Secretary

**(SEAL)**

By: \_\_\_\_\_ (s)

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

\_\_\_\_\_

\_\_\_\_\_  
Witness as to Principal

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

\_\_\_\_\_

**ATTEST:**

\_\_\_\_\_  
Surety

\_\_\_\_\_  
(Surety) Secretary

**(SEAL)**

By: \_\_\_\_\_  
Attorney-in-Fact

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

\_\_\_\_\_  
Witness as to Surety

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

\_\_\_\_\_

**NOTE:** Date of the Bond must not be prior to date of Contract. If Contractor is Partnership, all partners should execute the bond.

**IMPORTANT:** Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Tennessee where the project is located.

**PERFORMANCE BOND**

**KNOW ALL MEN BY THESE PRESENTS:** that

\_\_\_\_\_ (Name of Contractor)

\_\_\_\_\_ (Address of Contractor)

a \_\_\_\_\_, hereinafter called  
(Corporation, Partnership, or Individual)

PRINCIPAL, and \_\_\_\_\_ (Name of Surety)

\_\_\_\_\_ (Address of Surety)

hereinafter called SURETY, are held and firmly bound unto

The County of Robertson (Springfield, TN)

523 Brown Street, Springfield, Tennessee 37172

hereinafter called OWNER, in the penal sum of \_\_\_\_\_ Dollars,

\$ ( \_\_\_\_\_ ) in lawful money of the United States, for the payment of

which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

**THE CONDITION OF THIS OBLIGATION** is such that whereas, the PRINCIPAL entered into a certain contract with the OWNER, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, a copy of which is hereto attached and made a part hereof for the construction of: DETENTION CENTER ROOF REPLACEMENT PROJECT.

**NOW, THEREFORE,** if the PRINCIPAL shall well, truly and faithfully perform its duties, all the undertaking, covenants, terms, conditions, and agreements of said contract during the original term thereof, and extensions thereof which may be granted by the OWNER, with or without notice to the SURETY and during the one year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

**PROVIDED, FURTHER,** that the said SURETY, for value received hereby stipulates and agrees that no change, extension of time, alternation or addition of the terms of the contract or to work to be performed thereunder or the specifications accompanying the same shall in any wise affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

**PROVIDED, FURTHER,** that no final settlement between the OWNER and the PRINCIPAL shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

**IN WITNESS WHEREOF**, this instrument is executed in three (3) counterparts, each one of which shall be deemed an original, this \_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.

**ATTEST:**

\_\_\_\_\_  
Principal

\_\_\_\_\_  
(Principal) Secretary

**(SEAL)**

By: \_\_\_\_\_ (s)

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

\_\_\_\_\_

\_\_\_\_\_  
Witness as to Principal

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

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

\_\_\_\_\_

**ATTEST:**

\_\_\_\_\_  
Surety

\_\_\_\_\_  
(Surety) Secretary

**(SEAL)**

\_\_\_\_\_  
Witness to Surety

By: \_\_\_\_\_  
Attorney-in-Fact

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

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

\_\_\_\_\_

\_\_\_\_\_

**NOTE:** Date of bond must not be prior to date of Contract. If Contractor is Partnership, all partners should execute bond.

**IMPORTANT:** Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Tennessee where the project is located.

**NOTICE OF AWARD**

To: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PROJECT Description:

DETENTION CENTER ROOF REPLACEMENT PROJECT, The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement for Bids dated \_\_\_\_\_, 20\_\_\_\_, and Information for Bidders. You are hereby notified that your BID has been accepted for the work in the amount of \$ \_\_\_\_\_.

You are required by the Information for Bidders to execute the Agreement and furnish the required Contractor’s Performance Bond and Payment Bond within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said bonds within ten (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out

of the OWNER'S acceptance of your BID as abandoned and as a forfeiture of your Bid Bond. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_

DETENTION CENTER ROOF REPLACEMENT PROJECT

Owner

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

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



**ACCEPTANCE OF NOTICE**

Receipt of the NOTICE OF AWARD is hereby acknowledged by \_\_\_\_\_  
\_\_\_\_\_, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

DETENTION CENTER ROOF REPLACEMENT PROJECT

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

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

Contractor should send one completed copy of this form to:

Ms. Taylor Tomblin  
Purchasing Officer  
Robertson County  
523 South Brown Street  
Springfield, TN 37172

**NOTICE TO PROCEED**

To: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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

Project: DETENTION CENTER ROOF  
REPLACEMENT PROJECT

You are hereby notified to commence work in accordance with the Agreement dated \_\_\_\_\_, 20\_\_\_\_, on or before \_\_\_\_\_, and you are to complete all WORK within 90 consecutive calendar days thereafter.

The County of Robertson (Springfield, TN)  
Owner

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

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

**ACCEPTANCE OF NOTICE**

Receipt of the NOTICE TO PROCEED is hereby acknowledged by \_\_\_\_\_  
\_\_\_\_\_, this the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.

DETENTION CENTER ROOF REPLACEMENT PROJECT

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

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

Contractor should send one completed copy of this form to:

Ms. Taylor Tomblin  
Purchasing Officer  
Robertson County  
523 South Brown Street  
Springfield, TN 37172

**CHANGE ORDER**

Order No. \_\_\_\_\_

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

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

NAME OF PROJECT: DETENTION CENTER ROOF REPLACEMENT PROJECT

OWNER: The County of Robertson (Springfield, TN)

CONTRACTOR: \_\_\_\_\_

The following changes are hereby made to the CONTRACT DOCUMENTS:

Justification:

Change to CONTRACT PRICE: \$ \_\_\_\_\_

Original CONTRACT PRICE: \$ \_\_\_\_\_

Current CONTRACT PRICE adjusted by previous CHANGE ORDER: \$ \_\_\_\_\_

The CONTRACT PRICE due to this CHANGE ORDER will be (increased) by: \$ \_\_\_\_\_

The CONTRACT PRICE including this CHANGE ORDER will be: \$ \_\_\_\_\_

Change to CONTRACT TIME:

The CONTRACT TIME will be (increased) (decreased) by \_\_\_\_\_ calendar days.

The date for completion of all work will be \_\_\_\_\_ (Date). Sketch should accompany Change Order when necessary for clarification.

Approvals Required:

To be effective this Order must be approved by the owner if it changes the scope or objective of the project, or if it will increase the budgeted amounts of funds needed to complete the project, or as may otherwise be required by the SUPPLEMENTAL GENERAL CONDITIONS.

Requested by: County of Robertson (Springfield, TN)

Recommended by: CSR Engineering, Inc.

Ordered by: County of Robertson (Springfield, TN)

Accepted by: (Contractor)

Federal Agency Approval (where applicable): \_\_\_\_\_

## **GENERAL CONDITIONS**

1. Definitions
2. Additional Instructions and Detail Drawings
3. Schedules, Reports and Records
4. Drawings and Specifications
5. Shop Drawings
6. Materials, Services and Facilities
7. Inspection and Testing
8. Substitutions
9. Patents
10. Surveys, Permits, Regulations
11. Protection of Work, Property, Persons
12. Supervision by Contractor
13. Changes in Quantities, Plans or Character of the Work
14. Extra Work
15. Time for Completion and Liquidated Damages
16. Correction of Work
17. Suspension of Work, Termination and Delay
18. Payments to Contractor
19. Acceptance of Final Payment as Release
20. Contract Security
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24. Engineer's Authority

25. Land and Rights-of-Way

26. Guarantee

## 1. DEFINITIONS

- 1.1 Wherever used in the CONTRACT DOCUMENTS, the following terms shall have the meanings indicated which shall be applicable to both the singular and plural thereof:
- 1.2 **ADDENDA** – Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the CONTRACT DOCUMENTS, DRAWINGS, and SPECIFICATIONS, by additions, deletions, clarifications or corrections.
- 1.3 **BID** – The offer or proposal of the BIDDER submitted on the prescribed form setting forth the prices for the WORK to be performed.
- 1.4 **BIDDER** – Any person, firm or corporation submitting a BID for the WORK.
- 1.5 **BONDS** – Bid, Performance, and Payment Bonds and other instruments of security, furnished by the CONTRACTOR and his SURETY in accordance with the CONTRACT DOCUMENTS.
- 1.6 **GENERAL CONTRACT PROVISIONS** – Modifications to the General Conditions required by OWNER and/or a Federal Agency for participation in the Project.
- 1.7 **SPECIAL CONTRACT PROVISIONS** – Additional Modifications to the General Conditions and/or the OWNER General Contract Provisions required by OWNER and/or Federal Agency for participation in the Project.
- 1.8 **CHANGE ORDER** – A written order to the CONTRACTOR authorizing an addition, deletion or revision in the WORK within the general scope of the CONTRACT DOCUMENTS, or authorizing an adjustment in the CONTRACT PRICE or CONTRACT TIME.
- 1.9 **CONTRACT DOCUMENTS** – The contract, including Advertisement For Bids, Information For Bidders, BID, Bid Bond, Agreement, Payment Bond, Performance Bond, NOTICE OF AWARD, NOTICE TO PROCEED, CHANGE ORDER, DRAWINGS, SPECIFICATIONS, GENERAL PROVISIONS, SUPPLEMENTAL GENERAL CONDITIONS AND OWNER'S GENERAL AND SPECIAL CONTRACT PROVISIONS and ADDENDA.
- 1.10 **CONTRACT ITEM (PAY ITEM)** – A specifically described unit of work for which a price is provided in the CONTRACT DOCUMENTS.
- 1.11 **CONTRACT TIME** – The number of calendar days stated in the CONTRACT DOCUMENTS for the completion of the WORK.



- 1.13 **CONTRACTOR** – The person, firm or corporation with whom the OWNER has executed the Agreement.
- 1.14 **DRAWINGS** – The part of the CONTRACT DOCUMENTS which show the characteristics and scope of the WORK to be performed and which have been prepared or approved by the DESIGNER.
- 1.15 **DESIGNER** – The person, firm or corporation named as such in the CONTRACT DOCUMENTS.
- 1.16 **FIELD ORDER** – A written order effecting a change in the WORK not involving an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, issued by the DESIGNER to the CONTRACTOR during construction.
- 1.17 **NOTICE OF AWARD** – The written notice of the acceptance of the BID from the OWNER to the successful BIDDER.
- 1.18 **NOTICE TO PROCEED** – Written communication issued by the OWNER to the CONTRACTOR authorizing him to proceed with the WORK and establishing the date of commencement of the WORK.
- 1.19 **OWNER** – A public or quasi-public body or authority, corporation, association, partnership, or individual for whom the WORK is to be performed.
- 1.20 **PROJECT** – The undertaking to be performed as provided in the CONTRACT DOCUMENTS.
- 1.21 **RESIDENT PROJECT REPRESENTATIVE** – Authorized representative of the OWNER who is assigned to the PROJECT site or any part thereof.
- 1.22 **SHOP DRAWINGS** – All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the CONTRACTOR, a SUBCONTRACTOR, manufacturer, SUPPLIER or distributor, which illustrate how specific portions of the WORK shall be fabricated or installed.
- 1.23 **SUBCONTRACTOR** – An individual, firm or corporation having a direct contract with the CONTRACTOR or with any other SUBCONTRACTOR for the performance of a part of the WORK at the site.
- 1.25 **SUBSTANTIAL COMPLETION** – That date as certified by the DESIGNER when the construction of the PROJECT is sufficiently completed, in accordance with the CONTRACT

DOCUMENTS, so that the PROJECT can be utilized for the purposes for which it is intended.

- 1.26 **SUPERINTENDENT** – The CONTRACTOR’S authorized representative in responsible charge of the work.
- 1.27 **SUPPLIERS** – Any person, supplier or organization who supplies materials or equipment for the WORK, including that fabricated to a special design, but who does not perform labor at the site.
- 1.28 **WORK** – All labor necessary to produce the construction required by the CONTRACT DOCUMENTS, and all materials and equipment incorporated in the PROJECT.
- 1.29 **WRITTEN NOTICE** – Any notice to any part of the Agreement relative to any part of this Agreement in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at his last given address, or delivered in person to said party or his authorized representative on the WORK.

## **2. ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS**

- 2.1 The CONTRACTOR may be furnished additional instructions and detail drawings, by the DESIGNER, as necessary to carry out the WORK required by the **CONTRACT DOCUMENTS**.
- 2.2 The additional drawings and instruction thus supplied will become a part of the CONTRACT DOCUMENTS. The CONTRACTOR shall carry out the WORK in accordance with the additional detail drawings and instructions.

## **3. SCHEDULES, REPORTS AND RECORDS**

- 3.1 The CONTRACTOR shall submit to the OWNER such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data as the OWNER may request concerning WORK performed or to be performed.
- 3.2 Within 10 days after receipt of the NOTICE OF AWARD, the CONTRACTOR shall submit schedules showing the order in which he proposes to carry on the WORK, including dates at which he will start the various parts of the WORK, estimated date of completion of each part, and, as applicable:

- 3.2.1 The dates at which special detail drawings will be required, and
- 3.2.2 The respective dates for submission of SHOP DRAWINGS, the beginning of manufacture, the testing and the installation of materials, supplies and equipment.
- 3.3 The CONTRACTOR shall also submit a schedule of payments that he anticipates he will earn during the course of the WORK when requested by the OWNER.
- 3.4 If the **CONTRACTOR'S** operations are materially affected by changes in the plan or in the amount of the work or if he has failed to comply with submitted progress schedule, the **CONTRACTOR** shall submit a revised project schedule, if requested by the **DESIGNER**, which schedule will show how he proposes to prosecute the balance of the work. The **CONTRACTOR** shall incorporate into every progress schedule submitted, any contract requirements regarding the order of performance of portions of the work. The **CONTRACTOR** shall use all practical means to make the progress of the work conform to that shown on the progress schedule which is in effect. No payment will be made to the **CONTRACTOR** while he is delinquent in the submission of a progress schedule. Should the prosecution of the work, for any reason, be discontinued, the CONTRACTOR shall notify the DESIGNER at least 24 hours in advance of resuming operations.

#### **4. DRAWINGS AND SPECIFICATIONS**

- 4.1 The intent of the DRAWINGS and SPECIFICATIONS is that the **CONTRACTOR** shall furnish all labor, materials, tools, equipment, and transportation necessary for the proper execution of the WORK in accordance with the CONTRACT DOCUMENTS and all incidental work necessary to complete the PROJECT in an acceptable manner, ready for use, occupancy or operation by the OWNER.
- 4.2 In case of conflict between the DRAWINGS and SPECIFICATIONS, the SPECIFICATIONS shall govern. Figure dimensions on DRAWINGS shall govern over scale dimensions, and detailed DRAWINGS shall govern over general DRAWINGS.
- 4.3 Any discrepancies found between the DRAWINGS and SPECIFICATIONS and site conditions or any inconsistencies or ambiguities in the DRAWINGS or SPECIFICATIONS shall be immediately reported to the DESIGNER, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. WORK done by the CONTRACTOR after his

discovery of such discrepancies, inconsistencies or ambiguities shall be done at the CONTRACTOR'S risk.

## **5. SHOP DRAWINGS**

- 5.1 The CONTRACTOR shall prepare and submit SHOP DRAWINGS as may be necessary for the prosecution of the WORK as required by the CONTRACT DOCUMENTS, showing all details of fabrication for all parts of the structure. The DESIGNER shall promptly review all SHOP DRAWINGS. The DESIGNER'S review and acceptance of any SHOP DRAWINGS shall not release the CONTRACTOR from responsibility for deviations from the CONTRACT DOCUMENTS and shall require a CHANGE ORDER.
- 5.2 When submitted for the DESIGNER'S review, SHOP DRAWINGS shall bear the CONTRACTOR'S certification that he has reviewed, checked and approved the SHOP DRAWINGS and that they are in conformance with the requirements of the CONTRACT DOCUMENTS.
- 5.3 SHOP DRAWINGS prepared by the CONTRACTOR and accepted by the DESIGNER shall be deemed the correct interpretation of the work to be done, but they do not relieve the CONTRACTOR of the responsibility for the accuracy of details and dimensions. Fabrication tolerances shall be shown on the shop drawings. Where necessary to assure proper fit-up members, closer tolerances than those required herein shall be shown.
- 5.4 Portions of the WORK requiring a SHOP DRAWING or sample submission shall not begin until the SHOP DRAWING or submission has been approved by the DESIGNER. A copy of each approved SHOP DRAWING and each approved sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the DESIGNER.

## **6. MATERIALS, SERVICES AND FACILITIES**

- 6.1 It is understood that, except as otherwise specifically stated in the CONTRACT DOCUMENTS, the CONTRACTOR shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, supervision, temporary construction of

any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the WORK within the specified time.

- 6.2 Materials and equipment shall be so stored as to insure the preservation of their quality and fitness for the WORK. Stored materials and equipment to be incorporated in the WORK shall be located so as to facilitate prompt inspection.
- 6.3 Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and continued as directed by the manufacture.
- 6.4 Materials, supplies and equipment shall be in accordance with samples submitted by the CONTRACTOR and approved by the DESIGNER.
- 6.5 Materials, supplies or equipment to be incorporated into the WORK shall not be purchased by the CONTRACTOR or the SUBCONTRACTOR subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.

## **7. INSPECTION AND TESTING**

- 7.1 All materials and equipment used in the construction of the PROJECT shall be subject to adequate inspection and testing in accordance with generally accepted standards.
- 7.2 The CONTRACTOR shall provide at his expense the necessary testing and inspection services required by the CONTRACT DOCUMENTS, unless otherwise provided.
- 7.3 The DESIGNER shall provide all other inspection and testing services not required by the CONTRACT DOCUMENTS. Any damage to existing facilities will be the responsibility of the CONTRACTOR and the CONTRACTOR shall reimburse the OWNER prior to final payment.
- 7.4 If the CONTRACT DOCUMENTS, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require and WORK to specifically be inspected, tested, or approved by someone other than the CONTRACTOR, the CONTRACTOR will give the DESIGNER timely notice of readiness. The CONTRACTOR will then furnish the DESIGNER the required certificates of inspection, testing or approval.

- 7.5 Neither observations by the DESIGNER nor inspections, test or approvals by persons other than the CONTRACTOR shall relieve the CONTRACTOR from his obligations to perform the WORK in accordance with the requirements of the CONTRACT DOCUMENTS.
- 7.6 The DESIGNER and his representatives will at all times have access to the WORK. In addition, authorized representatives and agents of any participating Federal or State agency shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records. The CONTRACTOR will provide proper facilities for such access and observation of the WORK and also for any inspection, or testing thereof.
- 7.7 If any WORK is covered contrary to the written request of the DESIGNER it must, if requested by the DESIGNER, be uncovered for his observation and replaced at the CONTRACTOR'S expense.
- 7.8 If any WORK has been covered which the DESIGNER has not specifically requested to observe prior to its being covered, or if the DESIGNER considers it necessary or advisable that covered WORK be inspected or tested by others, the CONTRACTOR at the DESIGNER'S request, will uncover, expose or otherwise make available for observation, inspection or testing as the DESIGNER may require, that portion of the WORK in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such WORK is defective, the CONTRACTOR will bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction. If, however, such WORK is not found to be defective, the CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate CHANGE ORDER shall be issued.

## **8. SUBSTITUTIONS**

- 8.1 Whenever a material, article or piece of equipment is identified on the DRAWINGS or SPECIFICATIONS by reference to brand name or catalogue number, it shall be understood that this is referenced for the purpose of defining the performance or other salient

requirements and that other products of equal capacities, quality and function shall be considered. The CONTRACTOR may recommend the substitution of a material, article, or piece of equipment or equal substance and function for those referred to in the CONTRACT DOCUMENTS by reference to brand name or catalogue number, and if, in the opinion of the DESIGNER, such material, article, or piece of equipment is of equal substance and function to the specified, the DESIGNER may approve, with the OWNER'S approval, its substitution and use by the CONTRACTOR. Any cost differential shall be deductible from the CONTRACT PRICE and the CONTRACT DOCUMENTS shall be appropriately modified by CHANGE ORDER. The CONTRACTOR warrants that if substitutes are approved, no major changes in the function or general design of the PROJECT will result. Incidental changes or extra component parts required to accommodate the substitution will be made by the CONTRACTOR without a change in the CONTRACT PRICE or CONTRACT TIME.

## **9. PATENTS**

9.1 The CONTRACTOR shall pay all applicable royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and save the OWNER harmless from loss on account thereof, except that the OWNER shall be responsible for any such loss when a particular process, design, or the product of a particular manufacturer or manufacturers is specified, but if the CONTRACTOR has reason to believe that the design, process or product specified in an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the DESIGNER.

## **10. SURVEYS, PERMITS, REGULATIONS**

10.1 The OWNER shall furnish all land surveys and establish all base lines for locating the principal component parts of the WORK together with a suitable number of bench marks adjacent to the WORK as shown in the CONTRACT DOCUMENTS. From the information provided by the OWNER, unless otherwise specified in the CONTRACT DOCUMENTS, the CONTRACTOR shall develop and make all detail surveys needed for constructing such as

slope stakes, batter boards, stakes for pile locations and other working points, lines, elevations, and cut sheets.

10.2 The CONTRACTOR shall carefully preserve bench marks, reference points and stakes and, in case of willful or careless destruction, he shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or dues.

10.3 Permits and licenses of a temporary nature necessary for the prosecution of the WORK shall be secured and paid for by the CONTRACTOR. Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the OWNER, unless otherwise specified. The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the WORK as drawn and specified. If the CONTRACTOR observes that the CONTRACT DOCUMENTS are at variance therewith, he shall promptly notify the DESIGNER in writing, and any necessary changes shall be adjusted as provided in Section 13, CHANGES IN THE WORK.

## **11. PROTECTION OF WORK, PROPERTY AND PERSONS**

11.1 The CONTRACTOR will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the WORK. He will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees on the WORK and other persons who may be affected thereby, all the WORK and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, laws, walks, pavements, roadways, structures, and utilities not designated for removal, relocation or replacement in the course of construction.

11.2 The CONTRACTOR will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. He will erect and maintain, as required by the conditions and progress of the WORK, all necessary safeguards for safety and protection. He will notify owners of adjacent utilities when prosecution of the WORK may



affect them. The CONTRACTOR will remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the CONTRACTOR, any SUBCONTRACTOR or anyone directly or indirectly employed by any of them or anyone for whose acts any of them be liable, except damage or loss attributable to the fault of the CONTRACT DOCUMENTS or to the acts or omissions of the OWNER or the DESIGNER or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the CONTRACTOR.

11.3 In emergencies affecting the safety of persons or the WORK or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the DESIGNER or OWNER, shall act to prevent threatened damage, injury or loss. He will give the DESIGNER prompt WRITTEN NOTICE of any significant changes in the WORK or deviations from the CONTRACT DOCUMENTS caused thereby, and a CHANGE ORDER shall thereupon be issued covering the changes and deviations involved.

11.4 Until final acceptance of the project, the CONTRACTOR shall have the charge and care thereof and shall take every precaution against injury or damage to any part thereof by the action of the elements or from any other cause arising from the execution or from the non-execution of the work. The CONTRACTOR shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the CONTRACTOR, including but not limited to acts of God, or the public enemy or governmental authorities.

## **12. SUPERVISION BY CONTRACTOR**

12.1 The CONTRACTOR will supervise and direct the WORK. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will employ and maintain on the WORK a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the

CONTRACTOR'S representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR and all communications given to the supervisor shall be as binding as if given to the CONTRACTOR. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the WORK.

### **13. CHANGES IN QUANTITIES, PLANS OR CHARACTER OF THE WORK**

13.1 The DESIGNER reserves the right to make, by CHANGE ORDER, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project. Such changes in quantities and alternations shall not invalidate the contract nor release the surety, and by signing a CHANGE ORDER, the CONTRACTOR agrees to perform the work as altered and agrees to accept, as payment in full for such work, the monetary amounts set forth in such CHANGE ORDER, as balanced by the DESIGNER. In addition, by signing the CHANGE ORDER, the CONTRACTOR releases the OWNER from any and all claims for compensation with regard to the items of work specified in the CHANGE ORDER, including but not limited to, any and all claims for delay and overhead, unless the DESIGNER is notified in writing at the time of signing the CHANGE ORDER that the CONTRACTOR refuses to release the OWNER from such claims. All increases in quantities which appear in the CONTRACT as PAY ITEMS shall be paid for at the contract unit prices. Decreases in quantities shall be deducted from the contract at the contract unit price.

13.1a If the alterations or changes in quantities significantly change the character of the work under the Contract, whether or not changed by any such different quantities or alterations, an adjustment will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If the alterations or changes in quantities do not significantly change the character of the work to be performed under the contract, the altered work will be paid for on the basis of the actual quantity completed at the unit price for such named in the Contract. The term "significant change" shall be construed to apply only to the following circumstances:

1. When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction or
2. When an item or work, whose total cost is determined by multiplying the contract quantity by the contract unit price and is greater than 5 percent of the original contract price, is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125 percent of original contract item quantity, or in case of a decrease below 75 percent, to the actual amount of work performed, or
3. When such changes or alterations are sufficient in magnitude to affect the unit cost by 10 percent or more, considering all of the estimated quantity used for bidding purposes, or considering the altered portion of the item, the change in cost shall equal 25,000 dollars or more whichever is the lesser.

13.1b During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract, are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before they are disturbed and before the affected work is performed. Upon written notification, the DESIGNER will investigate the conditions, and if the DESIGNER determines that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the CONTRACT, an adjustment will be made and the CONTRACT modified in writing accordingly. The DESIGNER will notify the CONTRACTOR of the determination whether or not an adjustment of the CONTRACT is warranted.

No contract adjustment which results in a benefit to the CONTRACTOR will be allowed unless the CONTRACTOR has provided the required written notice.

No contract adjustment will be allowed under this clause for any effects caused on unchanged work.

No contract adjustment will be allowed unless such changes or alterations are sufficient in magnitude to affect the unit cost by 10 percent or more, considering all of the estimated quantity used for bidding purposes, or considering the altered portion of the item, the change in cost shall equal 25,000 dollars or more, whichever is lesser.

In no event shall a differing site condition invalidate the contract or release Surety.

#### **14. EXTRA WORK**

14.1 In connection with the work covered by the contract, the DESIGNER may, at any time during the progress of the work, order extra work, including materials incidental thereto. The CONTRACTOR shall perform this work whenever it is deemed necessary by the DESIGNER to fully complete the project as contemplated, and such work shall be done in accordance with the intent of the SPECIFICATIONS under the direction of the DESIGNER. Prior to ordering any extra work, the DESIGNER shall furnish written notification stating the location, kind and estimated quantity of the extra work to be done. The CONTRACTOR shall indicate in writing to the Engineer the compensation (unit price or lump sum) for which the extra work will be performed. This proposal shall be submitted to the DESIGNER for approval. If the DESIGNER considers the unit price or lump sum price excessive, the proposal may be disapproved and the work ordered done by force account in accordance with Subsection 14.2.

14.2 When extra work is required, it shall be performed in accordance with the requirements and provisions of Subsection 14.1. Payment for such work will be on the unit price or lump sum basis agreed upon in accordance with Subsection 14.1. When such agreement cannot be reached, the DESIGNER may order such work, including any off-site work, to be done by force account. The compensation as herein provided shall be accepted by the CONTRACTOR as payment in full for extra work done by force account, and the said percentages shall cover profit, superintendence, general expense, overhead, miscellaneous tools and equipment. For approved subcontract work, the CONTRACTOR will be paid an amount equal to 6 percent of the total cost of the subcontract work, as reimbursement for administrative costs incurred in connection with the subcontract work.

When it is necessary for the CONTRACTOR to hire a firm to perform a specialized type of work or service for which the CONTRACTOR or SUBCONTRACTORS are not qualified to do, payment will be made at the invoice cost. The CONTRACTOR will be paid an amount equal to 6 percent of invoice cost, as reimbursement for administrative costs. Prior approval by the DESIGNER is required.

- 14.2a The CONTRACTOR shall furnish to the DESIGNER, itemized reports of the costs of all force account work. The reports shall be furnished each week and shall include a certified copy of the weekly payroll and copies of bills for the materials used and the freight charges paid on same. Discount for prompt payment or penalty for late payment will not be considered in determining the net amount of the bill. The net amount of the bill shall be charged to the force account work. Where materials used are not specifically purchased for use on extra work but are taken from the CONTRACTOR'S stock, the CONTRACTOR shall submit a certification of the quantity, price, and freight on such materials in lieu of original bills and invoices.

The CONTRACTOR shall prepare itemized statements containing the following detailed information:

- Name, class, dates, number of hours worked each day, total hours computed to nearest half hour, rate, and extension for each laborer and foreman engaged.
- Designation, number of hours computed to nearest half hour worked each day, total hours and rental rate for each unit of equipment engaged.
- Quantities of materials and prices.
- Freight on materials.

The CONTRACTOR and the DESIGNER shall compare records of force account work and bring them into agreement at the end of each day.

- 14.2b For all labor and all craft foremen directly engaged in the specific work, the CONTRACTOR shall be paid the actual rate of wages and the number of hours paid said labor and foremen in accordance with approved labor agreements, computed to the nearest half hour, to which the sum of 26 percent will be added. Project Foremen will be classified as

Superintendents and their compensation will not be included in the payment provided herein.

Bond premium; Workmen's Compensation Insurance; Personal Injury Public Liability and Property Damage Public Liability Insurance; Unemployment Compensation; Federal Social Security; and payments required to be made to Employer and Employee Trusteships, the proceeds from which accrue exclusively to the benefit of the employee; will be paid for at actual cost, to which sum 20 percent will be added to the taxable fringe benefits. The CONTRACTOR shall furnish satisfactory evidence of the amounts paid for each of these required costs as related to force account work.

- 14.2c For materials, the CONTRACTOR will receive the actual cost delivered on the work including freight charges, as shown by copies of bills, to which the sum of 20 percent will be added.

If a change in the amount or type of force account work results in a surplus of the material ordered and delivered to the project site, the OWNER will reimburse the CONTRACTOR for the costs incurred returning the surplus material to the supplier.

- 14.2d No payment will be allowed for small hand and power tools which are not listed in the Rental Rate Blue Book for Construction Equipment as published by the Equipment Guide-Book Company. All small hand and power tools listed in the Rental Rate Blue Book at a rate of less than one dollar per hour will be considered as part of overhead and will not be paid for separately.

- 14.2e For any machinery and equipment, including the foreman's transportation unit, which the DESIGNER approves for use on extra work done by force account, the CONTRACTOR will be paid as follows:

The time paid for shall be the period that the equipment is required at the site of the extra work and, in addition, shall include traveling time to the location of the extra work when the equipment is moved under its own power, the actual operating time during periods of loading and unloading will be paid at the regular rental rate and transportation costs will be allowed. When the periods of work are not consecutive and the interval between termination of a period of work and the commencement of the subsequent

period does not exceed 30 days, the rates allowed will be the same as if the periods of work were consecutive.

The rental rate established for each piece of CONTRACTOR owned equipment, including appurtenances and attachments to equipment, used will be determined by use of the Rental Rate Blue Book for Construction Equipment Volume 1, 2, or 3 as applicable; the edition which is current at the time the force account work was started will apply. The established rental rate will be equal to the "Monthly" rate divided by 176; modified by the rate adjustment factor and the applicable map adjustment factor, plus the "Estimated Operating Costs per Hour", to which the sum of 10 percent will be added.

For equipment not listed in the Rental Rate Blue Book, Volume 1, 2, or 3, the rental rate will be determined by using the rate listed for a similar piece of equipment or by proportioning a rate listed so that the capacity, size, horsepower, and age are properly considered.

For equipment for which there are no comparable in the Rental Rate Blue Book, Volume 1, 2, or 3, the monthly rate shall be reasonable, but not more than 5 percent of the current list price, or invoice, of the equipment. The base hourly rate shall then be determined by dividing the monthly rate by 176 to which the sum of 20 percent will be added. The 20 percent includes adjustments and operating costs.

The rental rate for the foreman's transportation unit will be 7 dollars per hour, to which the sum of 20 percent will be added.

When leased or rented equipment is used on force account work, the hourly rate used in computation of payment will be the leased or rented rate, except that if the leased or rented rate exceeds the rental rate established by the Rental Rate Blue Book, the established rate determined from the Blue Book will apply. In either case, the Estimated Operating Cost per Hour will be added to the appropriate hourly rate to which the sum of 10 percent will be added.

In all cases the "Estimated Operating Cost per Hour" includes all fuel, oil, lubricants, tires, parts, and other operating expendables such as truck and labor assigned to the truck for servicing the equipment.

The rental rates allowed herein include the cost of insurance covering usual insurable risks, including fire and theft. The OWNER will not be liable for losses which can be covered by insurance.

In no instance, however, will the OWNER pay, on a total project basis, equipment costs in excess of the equipment's original invoice cost plus any documented improvements to the piece of equipment. The CONTRACTOR shall furnish to the DESIGNER either original bills and invoices or a certification documenting the equipment's original invoice price plus improvements in any instance which equipment costs are being sought under this Subsection for a period in excess of 30 days.

## **15. TIME FOR COMPLETION AND LIQUIDATED DAMAGES**

15.1 The date of beginning and the time for completion of the work are essential conditions of the CONTRACT DOCUMENTS and the WORK embraced shall be commenced on a date specified in the NOTICE TO PROCEED.

15.2 The CONTRACTOR will proceed with the WORK at such rate of progress to insure full completion within the CONTRACT TIME. The CONTRACTOR shall have completed the work on or before the calendar date specified in the CONTRACT DOCUMENTS, or on or before a later date as extended by CHANGE ORDER. It is expressly understood and agreed, by and between the CONTRACTOR and the OWNER, that the CONTRACT TIME for the completion of the WORK described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the WORK.

15.3 If the CONTRACTOR finds it impossible for reasons beyond his control to complete the WORK by the date as specified in the CONTRACT DOCUMENTS or as extended by CHANGE ORDER, he may make a written request to the DESIGNER for an extension of time setting forth therein the reasons he believes will justify the granting of his request. Requests for extensions of time shall be filed in writing by the CONTRACTOR with the DESIGNER. The CONTRACTOR'S plea that insufficient time was specified is not a valid reason for extension of time. If the OWNER and DESIGNER find that the WORK was delayed because of



conditions beyond the control and without the fault of the CONTRACTOR, the OWNER may extend the time for completion in such amount as the conditions justify. An appropriate CHANGE ORDER will be issued for the granting of any time extensions and the extended time for completion shall then be in full force and effect the same as though it were the original time for completion.

15.4 Delays caused by weather or season conditions should be anticipated and will be considered as the basis for an extension of time only when the actual number of work days lost exceeds the number of workdays lost each month due to inclement weather as determined by the following schedule:

<b>MONTH</b>	<b>NUMBER OF WORK DAYS LOST DUE TO WEATHER</b>
January	9
February	8
March	8
April	8
May	5
June	5
July	4
August	4
September	5
October	6
November	6
December	8

A work day will be counted as lost if the CONTRACTOR'S efficiency is reduced by more than 50 percent on the critical item under construction at that time. Weekends and Holidays will not be counted as lost work days.

- 15.5 If the CONTRACTOR shall fail to complete the WORK within the CONTRACT TIME, or extension of time granted through CHANGE ORDER by the OWNER, then the CONTRACTOR will pay to the OWNER the amount for liquidated damages as specified in the BID for each calendar day that the CONTRACTOR shall be in default after the time stipulated in the CONTRACT DOCUMENTS.
- 15.5.1 If the CONTRACTOR fails to complete the work within the CONTRACT TIME or extension of time granted by CHANGE ORDER, the OWNER, if satisfied that the CONTRACTOR is carrying the work forward with reasonable progress, may allow him to continue in control of the work. It shall be necessary for the CONTRACTOR to make written application to the OWNER to warrant such continuance. Payments to the CONTRACTOR for work performed and material furnished will be made.
- 15.5.2 For each calendar day that the CONTRACTOR shall be in default after the time stipulated in the CONTRACT DOCUMENTS, the amount for liquidated damages as specified in the BID will be deducted from any money due to the CONTRACTOR; provided, however, that the due amount shall be taken of any adjustment of completion dates granted.
- 15.5.3 Permitting the CONTRACTOR to continue and furnish WORK or any part of it after the date or dates of completion fixed for its completion or after which the date or dates to which completion may have been extended will in no way operate as a waiver on the part of the OWNER of any of its rights under the CONTRACT.
- 15.6 The CONTRACTOR shall not be charged with liquidated damages or any excess cost when the delay in completion of the WORK is due to the following, and the CONTRACTOR has promptly given WRITTEN NOTICE of such delay to the OWNER or DESIGNER.
- 15.6.1 To any preference, priority or allocation order duly issued by the OWNER.
- 15.6.2 To unforeseeable causes beyond the control and without the fault or negligence of the CONTRACTOR, including but not restricted to, acts of God, or of the public enemy, acts of the OWNER, acts of another CONTRACTOR in the performance of a contract with the OWNER, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and abnormal and unforeseeable weather as defined in Section 15.4; and

15.6.3 To any delays of SUBCONTRACTORS occasioned by any of the causes specified in paragraphs 15.4.1 and 15.4.2 of this article.

## **16. CORRECTION OF WORK**

16.1 The CONTRACTOR shall promptly remove from the premises all WORK rejected by the DESIGNER for failure to comply with the CONTRACT DOCUMENTS, whether incorporated in the construction or not, and the CONTRACTOR shall promptly replace and re-execute the WORK in accordance with the CONTRACT DOCUMENTS and without expense to the OWNER and shall bear the expense of making good all WORK of other CONTRACTORS destroyed or damaged by such removal or replacement.

16.2 All removal and replacement WORK shall be done at the CONTRACTOR'S expense. If the CONTRACTOR does not take action to remove such rejected WORK within ten (10) days after receipt of WRITTEN NOTICE, the OWNER may remove such WORK and store the materials at the expense of the CONTRACTOR.

## **17. SUSPENSION OF WORK, TERMINATED AND DELAY**

17.1 The OWNER may at any time and without cause, suspend the WORK or any portion thereof for a period of not more than ninety (90) days of such further time as agrees upon by the CONTRACTOR, by WRITTEN NOTICE to the CONTRACTOR and the DESIGNER which notice shall fix the date on which WORK shall be resumed. The CONTRACTOR will resume that WORK on the date so fixed. The CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to any suspension.

17.2 If the CONTRACTOR is adjudged as bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the CONTRACTOR or for any of his property, or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or applicable laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to SUBCONTRACTORS or for labor, materials or

equipment or if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction the WORK or if he disregards the authority of the DESIGNER, or if he otherwise violates any provision of the CONTRACT DOCUMENTS, then the OWNER may, without prejudice to any other right or remedy and after giving the CONTRACTOR and his SURETY a minimum of ten (10) days from delivery of a WRITTEN NOTICE, terminate the services of the CONTRACTOR and take possession of the PROJECT and of all materials, equipment, tools, construction equipment and machinery thereon owned by the CONTRACTOR, and finish the WORK by whatever method he may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the WORK is finished. If the unpaid balance of the CONTRACT PRICE exceeds the direct and indirect costs of completing the PROJECT, including compensation for additional professional services, such excess shall be paid to the CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR will pay the difference to the OWNER. Such costs incurred by the OWNER will be determined by the DESIGNER and incorporated in a CHANGE ORDER.

17.3 Where the CONTRACTOR'S services have been so terminated by the OWNER, said termination shall not affect any right of the OWNER against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of monies by the OWNER due the CONTRACTOR will not release the CONTRACTOR from compliance with the CONTRACT DOCUMENTS.

17.4 Upon delivery of a WRITTEN NOTICE to the CONTRACTOR and the DESIGNER, the OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the PROJECT and terminate the contract. In such case, the CONTRACTOR shall be paid for all WORK executed and any expense sustained plus a prorated share of their profit based on an independent audit of their records. The OWNER shall select and pay the auditor and all parties shall make their records available.

17.5 If, through no act or fault of the CONTRACTOR, the WORK is suspended for a period of more than ninety (90) days by the OWNER or under an order of court or other public authority, or the DESIGNER fails to act on any request for payment within thirty (30) days

after it is submitted, or the OWNER fails to pay the CONTRACTOR substantially the sum approved by the DESIGNER or awarded by the arbitrators within sixty (60) days of its approval and presentation, then the CONTRACTOR may, after ten (10) days from delivery of a WRITTEN NOTICE to the OWNER and the DESIGNER, terminate the CONTRACT and recover from the OWNER payment for all work executed and all expenses sustained. In addition and in lieu of terminating the CONTRACT, if the DESIGNER has failed to act on a request for payment or if the OWNER has failed to make any payment as aforesaid, the CONTRACTOR may upon ten (10) days notice to the OWNER and the DESIGNER stop the work until he has been paid all amounts then due, in which event and upon resumption of the WORK, CHANGE ORDERS shall be issued for adjusting the CONTRACT PRICE or extending the CONTRACT TIME or both to compensate for the costs and delays attributable to the stoppage of WORK.

- 17.6 If the performance of all or any portion of the WORK is suspended, delayed, or interrupted as a result of a failure of the OWNER or DESIGNER to act within the time specified in the CONTRACT DOCUMENTS, or if no time is specified, within a reasonable time, an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, shall be made by CHANGE ORDER to compensate the CONTRACTOR for the costs and delays necessary caused by the failure of the OWNER or DESIGNER.

## **18. PAYMENTS TO CONTRACTOR**

- 18.1 At least ten (10) days before each progress payment falls due (but not more often than once a month), the CONTRACTOR will submit to the DESIGNER a partial payment estimate filled out and signed by the CONTRACTOR covering the WORK performed during the period covered by the partial payment estimate and supported by such data as the DESIGNER may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the WORK but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the OWNER, as will establish the OWNER'S title to the material and equipment and protect his interest therein, including applicable insurance. The DESIGNER

will, within ten (10) days after receipt of each partial payment estimate either indicate in writing his approval of payment and present the partial payment estimate to the OWNER, or return the partial payment estimate to the CONTRACTOR indicating in writing his reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the partial payment estimate. The OWNER will, within thirty (30) days of presentation to him of an approved partial payment estimate, pay the CONTRACTOR a progress payment on the basis of the approved partial payment estimated. The OWNER shall retain ten percent (10%) of the amount of each payment until final completion and acceptance of all WORK covered by the CONTRACT DOCUMENTS. The OWNER at any time, however, after fifty percent (50%) of the WORK has been completed, if he finds that satisfactory progress is being made, shall reduce retainage to five percent (5%) on the current and remaining estimates. On completion and acceptance of a part of the WORK on which the price is stated separately in the CONTRACT DOCUMENTS, payment may be made in full, including retained percentages, less authorized deductions.

18.2 The request for payment may also include an allowance for the cost of such major materials and equipment which are suitably stored either at or near the site. This shall be verified by paid invoices.

18.3 Payment for materials stored offsite will be allowed in the following manner:

- Receipted bills or paid invoices must be presented with the partial pay estimate.
- Certificates of compliance with the specifications and plan details shall be provided with each pay estimate for the material which is paid for.
- Off-site storage area shall be identified and accessible for inspection.
- The price allowed for the stored materials shall not exceed 80% of the price of the delivered materials.
- Payment for unpaid bills will be limited to 40% of the total cost of the material. Upon proof of payment to the supplier for the materials, an additional 40% shall be paid. When the partial payment is made for the materials, such materials shall become the property of the OWNER but this does not relieve the CONTRACTOR of the

responsibility for any loss or damage to such materials until they are incorporated into the work and the work is accepted.

- 18.4 All WORK covered by partial payment made shall thereupon become the sole property of the OWNER, but this provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the WORK upon which payments have been made or the restoration of any damaged WORK, or as a waiver of the right of the OWNER to require the fulfillment of all terms of the CONTRACT DOCUMENTS.
- 18.5 Upon completion and acceptance of the WORK, the DESIGNER shall issue a certificate attached to the final payment request that the WORK has been accepted by him under the conditions of the CONTRACT DOCUMENTS. The entire balance found to be due the CONTRACTOR, including the retained percentages, but except such sums as may be lawfully retained by the OWNER, shall be paid to the CONTRACTOR within thirty (30) days of completion and acceptance of the WORK.
- 18.6 The CONTRACTOR will indemnify and save the OWNER or the OWNER'S agents harmless from all claims growing out of the lawful demands of SUBCONTRACTORS, laborers, workmen, mechanics, material men, and furnishes or machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the WORK. The CONTRACTOR shall, at the OWNER'S request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the CONTRACTOR fails to do so the OWNER may, after having notified the CONTRACTOR, either pay unpaid bills or withhold from the CONTRACTOR'S unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be resumed, in accordance with the terms of the CONTRACT DOCUMENTS, but in no event shall the provisions of this sentence be construed to impose any obligations upon the OWNER to either the CONTRACTOR, his SURETY, or any third party. In paying an unpaid bill of the CONTRACTOR, any payment so made by the OWNER shall be considered as a payment

made under the CONTRACT DOCUMENTS by the OWNER to the CONTRACTOR and the OWNER shall not be liable to the CONTRACTOR for any such payments made in good faith.

18.7 Sales tax on all material shall be paid for by the Contractor. The cost of the tax shall be passed on to OWNER in the appropriate bid items. No separate compensation or waiver will be given for sales tax on this project.

## **19. ACCEPTANCE OF FINAL PAYMENT AS RELEASE**

19.1 The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER of all claims and all liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the CONTRACTOR for all things done or furnished in connection with this WORK and for every act and neglect of the OWNER and others relating to or arising out of this WORK. Any payment, however, final or otherwise, shall not release the CONTRACTOR or his sureties from any obligations under the CONTRACT DOCUMENTS or the Performance Bond and Payment Bonds.

## **20. CONTRACT SECURITY**

20.1 The CONTRACTOR shall within ten (10) days after the receipt of the NOTICE OF AWARD furnish the OWNERS with a Performance Bond and a Labor and Material Payment Bond in penal sums equal to the amount of the CONTRACT PRICE, conditioned upon the performance by the CONTRACTOR of all undertakings, covenants, terms, conditions and agreements of the CONTRACT DOCUMENTS, and upon the prompt payment by the CONTRACTOR to all persons supplying labor and materials in the prosecution of the WORK provided by the CONTRACT DOCUMENTS. Such BONDS shall be executed by the CONTRACTOR and a corporate bonding company licensed to transact such business in the State of Tennessee in which the WORK is to be performed and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of these BONDS shall be borne by the CONTRACTOR. If at any time a surety on any such BOND is declared a bankrupt or loses its right to do business in the State of Tennessee in which the WORK is to be performed or is removed



from the list of Surety Companies accepted on Federal Bonds, CONTRACTOR shall within ten (10) days after notice from the OWNER to do so, substitute an acceptable BOND (or BONDS) in such form and sum and signed by such other surety or sureties as may be satisfactory to the OWNER. The premiums of such BOND shall be paid by the CONTRACTOR. No further payments shall be deemed due not shall be made until the new surety or sureties shall have furnished an acceptable BOND to the OWNER.

## **21. ASSIGNMENTS**

21.1 Neither the CONTRACTOR nor the OWNER shall sell, transfer, assign or otherwise dispose of the Contract or any portion thereof, or of his right, title or interest therein, or his obligations thereunder, without written consent of the other party.

## **22. SEPARATE CONTRACTS**

22.1 The OWNER reserves the right to let other contracts in connection with this PROJECT. The CONTRACTOR shall afford other CONTRACTORS reasonable opportunity for the introduction and storage of their materials and the execution of their WORK, and shall properly connect and coordinate his WORK with theirs. If the proper execution or results of any part of the CONTRACTOR'S WORK depends upon the WORK with theirs. If the proper execution or results of any part of the CONTRACTOR'S WORK depends upon the WORK of any other CONTRACTOR, the CONTRACTOR shall inspect and promptly report to the DESIGNER any defects in such WORK that render it unsuitable for such proper execution and results.

22.2 The OWNER may perform additional WORK related to the PROJECT by himself, or he may let other contracts containing provisions similar to these. The CONTRACTOR will afford the other CONTRACTORS who are parties to such Contracts (or the OWNER, if he is performing the additional WORK himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of WORK, and shall properly connect and coordinate his WORK with theirs.

22.3 If the performance of additional WORK by other CONTRACTORS or the OWNERS is not noted in the CONTRACT DOCUMENTS prior to the execution of the CONTRACT, written

notice thereof shall be given to the CONTRACTOR prior to starting any such additional WORK. If the CONTRACTOR believes that the performance of such additional WORK by the OWNER or others involves him in additional expense or entitles him to an extension of the CONTRACT TIME, he may make a claim therefore as provided in Sections 14 and 15.

### **23. SUBCONTRACTING**

23.1 The CONTRACTOR may utilize the services of specialty SUBCONTRACTORS on those parts of the WORK which, under normal contracting practices, are performed by specialty CONTRACTORS.

23.2 The CONTRACTOR shall not award WORK to SUBCONTRACTOR(S), in excess of fifty percent (50%) of the CONTRACT PRICE, without prior written approval of the OWNER. Assignment of any portion of the work by subcontract must be approved in advance by the OWNER.

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

23.4 The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the WORK to bind SUBCONTRACTORS to the CONTRACTOR by the terms of the CONTRACT DOCUMENTS insofar as applicable to the WORK of SUBCONTRACTORS and to give the CONTRACTOR the same power as regards terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provision of the CONTRACT DOCUMENTS.

23.5 Nothing contained in this CONTRACT shall create any contractual relation between any SUBCONTRACTOR and the OWNER.

### **24. DESIGNER'S AUTHORITY**

24.1 The DESIGNER shall act as the OWNER'S representative during the construction period. He shall decide questions which may arise as to quality and acceptability of materials furnished and WORK performed. He shall interpret the intent of the CONTRACT

DOCUMENTS in a fair and unbiased manner. The DESIGNER will make visits to the site and determine if the WORK is proceeding in accordance with the CONTRACT DOCUMENTS.

24.2 The CONTRACTOR will be held strictly to the intent of the CONTRACT DOCUMENTS in regard to the quality of materials, workmanship and execution of the WORK. Inspection may be made at the factory or fabrication plant of the source of material supply.

24.3 The DESIGNER will not be responsible for the construction means, controls, techniques, sequences, procedures, or construction safety.

24.4 The DESIGNER shall promptly make decisions relative to interpretation of the CONTRACT DOCUMENTS.

## **25. LAND AND RIGHTS-OF-WAYS**

25.1 Prior to insurance of NOTICE TO PROCEED, the OWNER shall obtain all land and rights-of-way necessary for carrying out and for the completion of the WORK to be performed pursuant to the CONTRACT DOCUMENTS, unless otherwise mutually agreed.

25.2 The OWNER shall provide to the CONTRACTOR information which delineates and describes the lands owned and rights-of-way acquired.

25.3 The CONTRACTOR shall provide at his own expense and without liability to the OWNER any additional land and access thereto that the CONTRACTOR may desire for temporary construction facilities, or for storage of materials.

## **26. GUARANTEE**

26.1 The CONTRACTOR shall guarantee all materials and equipment furnished and WORK performed for a period of one (1) year from the date of SUBSTANTIAL COMPLETION. The CONTRACTOR warrants and guarantees for a period of one (1) year from the date of SUBSTANTIAL COMPLETION of the system that the completed system is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. The OWNER will

give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR shall fail to make such repairs, adjustments, or other WORK that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period. This section does not preclude any stated material or workmanship warranties otherwise stated in the contract and bidding documents.

26.2 Nothing in the above intends or implies that this guarantee shall apply to work which has been abused or neglected by the OWNER.

## **SUPPLEMENTAL GENERAL CONDITIONS**

1. CONTRACT CHANGES

Any proposed change in this contract shall be submitted to the County of Robertson (Springfield, TN) for its prior approval.

2. GOVERNMENT INSPECTION

The government shall have access to the site of construction and shall have the right to inspect all project works.

3. NOTICE TO ROBERTSON COUNTY OF LABOR DISPUTES

Whenever the contractor has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of this contract, the contractor shall immediately give notice thereof, including all relevant information with respect thereto, to THE COUNTY.

4. CONVICT LABOR

In connection with the performance of work under this contract the contractor agrees not to employ any person undergoing sentence of imprisonment at hard labor. This does not include convicts who are on parole or probation.

6. OWNERSHIP OF DOCUMENTS

ROBERTSON COUNTY will retain ownership of all plans, specifications, and related documents.

7. PROTEST PROCEDURES

Protests concerning these instructions, the contract requirements, the specifications, the bidding procedures or the contract award, or any other request for explanation or clarification shall be submitted in writing and will include the following information:

1. The name of the protester;
2. The name and telephone number of the protester's contract person having responsibility; and
3. A complete statement of the ground of the protest with full documentation of the protester's claim.

Protests regarding the bid documents, specifications, instructions, or bidding procedure must be received by ROBERTSON COUNTY not less than ten (10) working days before the scheduled bid opening. Protest involving the award of the bid must be received by ROBERTSON COUNTY no later than five (5) working days after notification of the award of the bid.

#### 8. REQUESTS

Requests for approved equals, clarification of specifications and protest of specifications must be received by ROBERTSON COUNTY, in writing, not less than ten (10) days before the scheduled bid opening. Any request for an approved equal or protest of the specifications must be fully supported with all necessary technical data, test results, or other pertinent information. ROBERTSON COUNTY's replies to requests will be postmarked at least five (5) days before the scheduled bid opening. The supplier must demonstrate the equality of his product to ROBERTSON COUNTY in order that ROBERTSON COUNTY may determine whether the supplier's product is or is not equal to that specified.

# DETAILED SPECIFICATIONS

## SECTION -- DELIVERY, STORAGE AND HANDLING

### 1 GENERAL

#### 1.1 SUMMARY

- A. Protect products scheduled for use in the Work by means including, but not necessarily limited to, those described in this Section.
- B. Related Work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions and Sections of these Specifications.
  - 2. Additional procedures also may be prescribed in other Sections of these Specifications.

#### 1.2 QUALITY ASSURANCE

- A. Include within the Contractor's quality assurance program such procedures as are required to assure full protection of work and materials.

#### 1.3 MANUFACTURERS' RECOMMENDATIONS

- A. Except as otherwise approved by the Designer, determine and comply with manufacturers' recommendations on product handling, storage, and protection.

#### 1.4 PACKAGING

- A. Deliver products to the job site in their manufacturer's original container, with labels intact and legible.
  - 1. Maintain packaged materials with seals unbroken and labels intact until time of use.
  - 2. Promptly remove damaged material and unsuitable items from the job site, and promptly replace with material meeting the specified requirements, at no additional cost to the Owner.
- B. The Designer may reject as non-complying such material and products that do not bear identification satisfactory to the Designer as to manufacturer, grade, quality, and other pertinent information.

#### 1.5 PROTECTION AND HANDLING

- A. Maintain finished surfaces clean, unmarred, and suitably protected until accepted by the Owner.

#### 1.6 REPAIRS AND REPLACEMENTS

- A. In event of damage to the Owner's property or to work in progress, promptly make replacements and repairs to the approval of the Designer and at no additional cost to the Owner.
- B. Additional time required to secure replacements and to make repairs will not be considered by the Designer to justify an extension in the Contract Time of Completion.

END OF SECTION

## SECTION -- CLOSEOUT REQUIREMENTS

### 1 GENERAL

#### 1.1 SUMMARY

- A. Closeout Procedures
- B. Final Cleaning
- C. Project Record Documents
- D. Operation and Maintenance Data
- E. Warranties and Bonds

#### 1.2 RELATED WORK

- A. Agreement Between Owner and Contractor.
- B. Section Submittals.

#### 1.3 CLOSEOUT PROCEDURES

- A. Comply with Robertson County Government for Progress Payment Procedures for issuance of Certificate of Substantial Completion.
- B. When Contractor considers that the Work has reached final completion, submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with contract Documents and ready for the Designer's inspection.
- C. In addition to submittals required by the conditions of the Contract, provide submittals required by governing authorities, and submit a final statement of accounting giving total adjusted Contract Sum, previous payments, and sum remaining due.
- D. Designer will issue final Change Directive reflecting approved adjustments to Contract Sum not previously made by Change Directive.
- E. Submit all close-out documents and products to the Designer.

#### 1.4 FINAL CLEANING

- A. Complete prior to final inspection.
- B. Clean interior and exterior surfaces exposed to view; remove ALL temporary labels, stains and foreign substances, clean equipment and fixtures to a sanitary condition, clean or replace filters of mechanical equipment.
- C. Thoroughly clean all exterior and interior finishes.
- D. Identify, remove and dispose of all debris and hazardous waste from site. Dispose of materials in compliance with current local, state and federal environmental requirements.

#### 1.5 OPERATION AND MAINTENANCE DATA

- A. Provide names and addresses of manufacturers and suppliers of equipment and materials and general and subcontractors.
- B. Provide data for:
  - 1. Installed Roof System
  - 2. Any other items specifically identified in individual specification sections of this Project Manual.
- C. Submit four (4) sets prior to final inspection, bound in 8-1/2" x 11" three-ring side binders with durable plastic covers, tabbed with permanent tab markers and identified on face and spine.



1. Part 1: Directory, listing names, addresses and telephone numbers of Designer/Engineer and Contractor(s).
2. Part 2: Operation and maintenance instructions arranged by system. For each system give names, addresses, and telephone numbers of subcontractors and suppliers. Provide:
  - (a) Appropriate design criteria.
  - (b) List of Equipment
  - (c) Maintenance instructions, identifying required cleaning materials and solutions for removals of (i.e. graffiti, marker ink, efflorescence, Etc.)
  - (d) Maintenance instructions, to protect finishes.
  - (e) Shop drawings and product data.
  - (f) Warranties.

#### 1.6 ADDITIONAL DOCUMENTATION

- A. Provide the following documentation in addition to that previously specified:
  1. Consent of Surety to Final Payment
  2. Contractor's Affidavit of Release of Liens
  3. Contractor's Affidavit of Payment of Debts and Claims.
  4. Lien Waiver from all Subcontractors.
  5. Non-asbestos/lead Certification.
  6. As-Built Documentation in electronic format acceptable to the Designer (verify format with Designer). Contractor shall provide Record "As Built" documentation for all work that deviates from the Contract Bid Documents.

#### 1.7 WARRANTIES AND BONDS

- A. Provide duplicate, notarized copies. Execute Contractor's submittals and assemble documents executed by subcontractors, suppliers, and manufacturers. Provide table of contents and assemble in binder with durable plastic cover.
- B. Submit material prior to final application for payment. For items of Work delayed materially beyond Date of Substantial Completion, provide updated submittal within ten days after acceptance, listing(s) of ALL Manufacturers Warranties, date(s) of acceptance as start and end of warranty period(s).
- C. Manufacturers Warranties:
  1. Reference ALL other related specification sections.
- D. Contractor Warranties:
  1. Provide all Contractor's and subcontractor's materials and workmanship warranties.

#### 1.8 PRODUCTS

- A. Provide ALL Products Data with ALL other related product information to the Designer to assist the Owner with the proper maintenance, repair, or replacement re-use of all Products utilized for this Project.

#### 1.9 SPECIAL CERTIFICATION(S)

- A. Provide duplicate, notarized copies.
- B. Provide certification(s) that products and materials installed are free of asbestos and comply with current local, state and federal requirements regarding use of non-asbestos materials.

- C. Provide certification(s) that products and materials installed are free of lead and comply with current local, state and federal requirements regarding use of non-lead materials.
  - D. Provide copies of all environmentally related permits required, and fee receipts for disposal of hazardous materials from the construction site (if applicable).
- 1.10 FINAL ACCEPTANCE AND PAYMENT
- A. Conform to Contract requirements for Final Completion and Final Payment.

END OF SECTION

## **SECTION -- SELECTIVE DEMOLITION**

### **1 GENERAL**

#### **1.1 SECTION INCLUDES**

- A. Demolition and removal of roofing systems (existing bitumen system and all insulation to concrete deck) and unsuitable roof deck materials including the replacement/repair of damaged roof deck materials, and miscellaneous modifications to or removal of rooftop items such as vtr, hvac unit, fan/vent flashings and curb construction, temporary disassembly and inflow height modifications to existing roof drains, and removal of attachments to existing masonry parapet walls. All demolition shall include the removal of those demolished materials from the site and their proper disposal with the exception of items that are to be retained and properly stored for reinstallation by the Contractor.

#### **1.2 RELATED SECTIONS**

- A. Section "Membrane Roofing Systems"
- B. Documents affecting work of this Section also include, but are not necessarily limited to, the Robertson County General Conditions of the Contract for construction and other Sections of these Specifications. It is the Contractors' responsibility to familiarize themselves with these documents prior to submitting a bid for the Work.

#### **1.3 QUALITY ASSURANCE**

- A. Contractor Qualifications: Minimum of five years experience in this type of demolition.
- B. Meet the requirements of the local regulatory agencies.
- C. Permit for transporting and disposal of debris.

#### **1.4 JOB CONDITIONS**

- A. Protection:
  - 1. Erect barriers, fences, guard rails, enclosures, chutes, dust barriers and shoring to protect personnel, property, structures, and utilities remaining intact.
  - 2. If required by governing authorities, provide alternate routes around closed or obstructed traffic ways.

### **2 PRODUCTS**

#### **2.1 MATERIALS**

- A. Except where noted otherwise, maintain possession of materials being demolished. Immediately remove these materials from site.
- B. Carefully remove, store, and protect for re-installation all materials and equipment that is noted on drawings to be relocated or re-used. Repair or replace using matching materials of equal quality, and at no cost to the Owner, all existing materials and construction not designated for removal that become damaged.

### **3 EXECUTION**

#### **3.1 EXAMINATION**

- A. Demolish designated materials in an orderly and careful manner. Examine the site and building elements shown to be removed and verify the demolition requirements with the Owner's representative prior to beginning the work.

- B. Notify the Owner and the Owner's representative prior to removal of any hazardous materials if any are encountered. After removal, notify the Owner that all hazardous materials have been removed and the work space conditions are certified safe by the Contractor's Hazardous Materials Abatement SubContractor.
- C. Prior to the commencement of any demolition work all interior roof drains are to be inspected and tested for proper function. If required, the Owner is to be notified through the Owner's representative of any roof drains which do not function properly.

### 3.2 PREPARATION

- A. The facility will be occupied during construction. Schedule times for operation of excessively loud or prolonged use of noisy or dust producing equipment with the Owner. Erect and maintain protective safety barriers at all times between building occupants and construction zones.
- B. Erect temporary weatherproof closures for exterior building envelope openings.
- C. Erect and maintain dustproof partitions capable of preventing the spread of dust, fumes, and smoke to occupied portions of the building. Upon completion of the work, remove partitions and repair damaged surfaces to match adjacent existing surfaces.

### 3.3 DEMOLITION REQUIREMENTS

- A. Perform demolition in accordance with the requirements of applicable authorities having jurisdiction.
- B. Repair all demolition performed in excess of that required, at no cost to the Owner.
- C. Remove only non-structural elements. Do not cut or alter structural elements without specific authorization from the Owner's representative.
- D. Perform all concrete and masonry cutting using power-driven saws to achieve straight, even surfaces. Power impact tools are prohibited from use.
- E. Burning of materials on site is not permitted.
- F. Remove from site contaminated, vermin infested or dangerous materials encountered and dispose of by safe means so as not to endanger health of workers and public.
- G. Carry out demolition work in a manner that will cause as little inconvenience as possible to adjacent occupied building areas and adjacent building construction.
- H. Remove demolished materials, tools, and equipment from site upon completion of work. Leave site in a condition acceptable to the Owner.
- I. Erect and maintain weatherproof closures for exterior openings. Mechanical equipment and other items to be removed shall be put back in place, replaced, or their openings shall be made watertight by the end of each workday.
- J. No more roofing material may be removed than can be replaced the same day. The removal of the roofing material must be coordinated with sections of Section "Membrane Roofing Systems" to maintain moisture protection for the building interior at all times. Upon Commencement of the tearoff operations the Contractor assumes full responsibility for moisture infiltration into the building envelope and ensuing damages. The existing roofing system and all attachments shall be completely removed, leaving the exposed structural deck in a clean and uncluttered condition and ready for the installation of the new roof system.
- K. Disconnect and reconnect plumbing, mechanical, and electrical items as may be required by properly licensed workers to prevent disruption of the operation of the facility. Provide for uninterrupted temporary utility services or schedule disconnections for evenings and weekends to avoid disruption of operations within

the building for standard work day schedule operations. Schedule all work in advance with the Owner.

- L. Prior to new construction, final completion of demolition work, all damaged conditions revealed after demolition materials are removed shall be repaired and made whole prior to installation of any new roofing construction materials.

#### 3.4 CUTTING AND DRILLING

- A. Perform cutting with hand tools or with small power-driven tools. Cut holes and slots neatly to size required with the minimum disturbance to adjacent work.
- B. Where required, cut round holes in concrete slabs and masonry walls with core drills of required sizes. Saw cut rectangular holes with power-driven tools.
- C. Cover openings temporarily when not in use and patch openings as soon as new work is in place.

END OF SECTION

## SECTION MASONRY TUCKPOINTING

### 1 GENERAL

#### 1.1 DESCRIPTION

- A. This section specifies requirements for tuck pointing of existing masonry and stone work as required to remove all caulking, sealants, and other materials currently improperly utilized as a substitute for cement mortar in stone masonry joinery and replace using methods and procedures indicated in this Section of these specifications.

#### 1.2 RELATED WORK

- A. Section Selective Demolition
- B. Section Membrane Roofing Systems
- C. Section Sealants and Caulking

#### 1.3 APPLICABLE PUBLICATIONS

- A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in the text by basic designation only.
- B. American Society for Testing and Materials (ASTM): C67 92--Brick and Structural Clay Tile, Sampling and Testing C216 92--Facing Brick (Solid Masonry Units Made From Clay or Shale)
- C. International Masonry Industry All Weather Council: Recommended Practices and Guide Specifications for Cold Weather Masonry Construction (Published 12/1/70 Copyright 1981).

### 2 PRODUCTS

#### 2.1 TUCK POINTING MORTAR

- A. Tuckpointing Mortar – ASTM C270-12a Type S, not less than 1800 psi at 28 days for load bearing and all exterior walls and parapets.

#### 2.2 REPLACEMENT MASONRY UNITS (AS NEEDED)

- A. Not Used
- B. New masonry units to match existing

### 3 EXECUTION

#### 3.1 CUT OUT OF EXISTING MORTAR JOINTS

- A. Cut out existing mortar joints (both bed and head joints) and remove by means of a toothing chisel or a special pointer's grinder, to a uniform depth of to 19 mm (3/4 inch), or until sound mortar is reached. Take care to not damage any surfaces of existing masonry units to remain.
- B. Remove dust and debris from the joints by brushing, blowing with air or rinsing with water. Do not rinse when temperature is below freezing.
- C. Thoroughly clean and prepare joints lacking mortar between stone masonry units in order to receive new mortar and to ensure proper bonding.

#### 3.2 JOB CONDITIONS

- A. Protection: Protect newly pointed joints from rain, until pointed joints are sufficiently hard enough to prevent damage.

- B. Cold Weather Protection:
  - 1. Tuck pointing may be performed in freezing weather when methods of protection are utilized.
  - 2. Comply with applicable sections of "Recommended Practices for Cold Weather Construction" as published by International Masonry Industry All Weather Council.
  - 3. Existing surfaces at temperatures to prevent mortar from freezing or causing other damage to mortar.
- C. Perform masonry repair work prior to the installation of the new roof installation. If masonry repairs must be made over any portion of the new roof the Contractor is solely responsible for the protection of the new roof against any damage.

### 3.3 INSTALLATION OF TUCK POINTING MORTAR

- A. Immediately prior to application of mortar, dampen joints to be tuck pointed. Prior to application of pointing mortar, allow masonry units to absorb surface water.
- B. Tightly pack mortar into joints in thin layers, approximately 6.4 mm (1/4 inch) thick maximum.
- C. Allow layer to become "thumbprint hard" before applying next layer.
- D. Pack final layer flush with surfaces of masonry units. When mortar becomes "thumbprint hard", tool joints.

### 3.4 TOOLING OF JOINTS

- A. Tool joints in patch work with a jointing tool to match the existing surrounding joints.

### 3.5 REPLACEMENT OF MASONRY UNITS

- A. Cut out mortar joints surrounding masonry units that are to be removed and replaced.
  - 1. Units removed may be broken and removed, providing surrounding units to remain are not damaged.
  - 2. Once the units are removed, carefully chisel out the old mortar and remove dust and debris.
  - 3. If units are located in exterior wythe of a cavity or veneer wall, exercise care to prevent debris falling into cavity.
- B. Dampen surfaces of the surrounding units before new units are placed.
  - 1. Allow existing masonry to absorb surface moisture prior to starting installation of the new replacement units.
  - 2. Butter contact surfaces of existing masonry and new replacement masonry units with mortar.
  - 3. Center replacement masonry units in opening and press into position.
  - 4. Remove excess mortar with a trowel.
  - 5. Point around replacement masonry units to ensure full head and bed joints.
  - 6. When mortar becomes "thumbprint hard", tool joints.

### 3.6 CLEANING

- A. Clean exposed masonry surfaces on completion.
- B. Remove mortar droppings and other foreign substances from wall surfaces.
- C. First wet surfaces with clean water then wash down with a solution of soapless detergent specially prepared for cleaning brick.
- D. Brush with stiff fiber brushes while washing, and immediately thereafter hose down with clean water.

- E. Free clean surfaces from traces of detergent, foreign streaks or stains. Protect materials during cleaning operations including adjoining construction.
- F. Use of muratic acid for cleaning is prohibited.

END OF SECTION



## SECTION -- MISCELLANEOUS ROUGH CARPENTRY

### 1 GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  1. Wood blocking, nailers, and miscellaneous wood rough carpentry.

#### 1.3 DEFINITIONS

- A. Dimension Lumber: Lumber of 1 inch nominal or greater in thickness but not greater than 12 inches nominal in width.
- B. Lumber grading agencies, and the abbreviations used to reference them, include the following:
  1. NeLMA: Northeastern Lumber Manufacturers' Association.
  2. NHLA: National Hardwood Lumber Association.
  3. NLGA: National Lumber Grades Authority.
  4. SPIB: The Southern Pine Inspection Bureau.
  5. WCLIB: West Coast Lumber Inspection Bureau.
  6. WWPA: Western Wood Products Association.

#### 1.4 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
  1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.

#### 1.5 QUALITY ASSURANCE

- A. Forest Certification: For the following wood products, provide materials produced from wood obtained from forests certified by an FSC-accredited (Forest Stewardship Council) certification body to comply with FSC 1.2, "Principles and Criteria":
  1. Miscellaneous lumber.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.
- B. Deliver interior wood materials that are to be exposed to view only after building is enclosed and weatherproof, wet work other than painting is dry, and HVAC system is operating and maintaining temperature and humidity at occupancy levels.

### 2 PRODUCTS

#### 2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
  - 1. Factory mark each piece of lumber with grade stamp of grading agency.
  - 2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
  - 3. Provide dressed lumber, S4S, unless otherwise indicated.

## 2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWWPA C2.
  - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
  - 2. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
  - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, waterproofing, masonry, and concrete.

## 2.3 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
  - 1. Blocking.
  - 2. Nailers.
  - 3. Rooftop equipment bases and support curbs.
- B. For items of dimension lumber size, provide Construction or No. 2 grade lumber with 15 percent maximum moisture content and any of the following species:
  - 1. Hem-fir (north); NLGA.
  - 2. Mixed southern pine; SPIB.
  - 3. Spruce-pine-fir; NLGA.
  - 4. Hem-fir; WCLIB, or WWPA.
  - 5. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
  - 6. Western woods; WCLIB or WWPA.
  - 7. Northern species; NLGA.
  - 8. Eastern softwoods; NeLMA.
- C. For blocking not used for attachment of other construction Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

- E. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

## 2.4 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
  - 1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M or of Type 304 stainless steel.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: NES NER-272.
- D. Wood Screws: ASME B18.6.1.
- E. Screws for Fastening to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.
- F. Lag Bolts: ASME B18.2.1.
- G. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.
- H. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
  - 1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.
  - 2. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2.

## 3 EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
- C. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- D. Comply with AWWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
  - 1. Use inorganic boron for items that are continuously protected from liquid water.
  - 2. Use copper naphthenate for items not continuously protected from liquid water.
- E. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
  - 1. NES NER-272 for power-driven fasteners.
  - 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.

3. Table 23-II-B-1, "Nailing Schedule," and Table 23-II-B-2, "Wood Structural Panel Roof Sheathing Nailing Schedule," in ICBO's Uniform Building Code.
4. Table 2305.2, "Fastening Schedule," in BOCA's BOCA National Building Code.
5. Table 2306.1, "Fastening Schedule," in SBCCI's Standard Building Code.

- F. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; do not countersink nail heads, unless otherwise indicated.

### 3.2 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading in accordance with applicable building codes and roofing manufacturers specifications. Recess bolts and nuts flush with surfaces, unless otherwise indicated.
- C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.
- D. Secure shims simultaneously with overlying solid wood nailer. Shim material must be continuous. Spaced shims are not acceptable.

### 3.3 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA registered label.

END OF SECTION

## SECTION -- MEMBRANE ROOFING SYSTEMS

### 1 GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Mechanically attached heat-welded **KEE** sheet roof membrane system and related accessories.
  - 2. Fully adhered heat-welded high performance **KEE** sheet roof membrane system and related accessories.
  - 3. Adhesives, Primers, and Sealants
  - 4. Roof insulation and protection boards
- B. Related Sections include the following:
  - 1. Section "Miscellaneous Carpentry" for wood nailers, curbs, and blocking.
  - 2. Section "Sheet Metal Flashing and Trim" for roof penetration flashings, and counterflashings.
  - 3. Section "Submittals"
  - 4. Section "Masonry Tuckpointing"

#### 1.3 PROJECT SCOPE OF WORK

- A. Roofing Contractor shall furnish all labor, materials, tools, equipment, supervision and permits necessary to remove the existing roof system, including waterproofing membrane(s), flashing, insulation and metal, down to the structural roof deck and legally dispose of all debris off site. Scope also includes removal and replacement of unsuitable roof decking attachments and nailer material.
- B. The roofing contractor shall inspect the structural roof deck for deterioration and/or structural anomalies that would prevent the successful installation of the new high performance membrane roof system.
- C. Any deteriorated or failed structural concrete decking discovered during the re-roofing process will be addressed by the owner's representative structural engineer and addressed with a field directive if required. Actual areas of deck replacement shall be coordinated with the Owner / Owner's representative prior to removal or corrective measures.
- D. Upon the successful removal of the existing roof system and remediation of any decking issues, the roofing contractor shall install a new High Performance Mechanically Attached or Fully Adhered FiberTite 036 system including roof related insulation and/or cover-boards, protection boards, flashings, accessories and related metalwork in strict accordance with the contract, drawings and High Performance Membrane Roof System Manufacturer's most current specifications and details.
- E. The roofing contractor shall be an "Authorized Roofing Contractor" of the MRSM in good standing and be fully knowledgeable of all the requirements within the contract documents as well as all job site conditions that could affect their work.
- F. The roofing contractor shall confirm all given information and notify the building owner / owner's representative, prior to bid, of any conflicts that will affect the quality or cost of the proposal.

- G. Any contractor wishing to submit a proposal using an alternative "High Performance" roofing system other than the approved manufacturer(s) must submit a pre-qualification request in writing at least fourteen (14) working days prior to the bid date justifying in writing that the alternate is of equal quality and performance in ALL RESPECTS to the high performance selected foundation of this specification.
- H. Failure to submit a timely pre-qualification proposal will be grounds for total rejection of the contractor's proposal.

#### 1.4 PERFORMANCE REQUIREMENTS

- A. General: Provide installed roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and failure to weather and/or ultraviolet light exposure.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing manufacturer based on testing, field experience, and conditions of warranty.
- C. The Basis of Design for this Project's replacement roofing system is: High Performance Mechanically Attached Fibertite 036 single ply roofing system primarily driven by the ASTM 6754 for KEE roofing systems.

#### 1.5 SUBMITTALS

- A. Product Data and Shop Drawings: Submit manufacturer's product data for each type of product indicated. At a minimum, submit shop drawings for tapered insulation layout, metal fabrications including flashings and counterflashings, and miscellaneous metal fabrications.
- B. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.
- C. Manufacturer Certificates: Signed by roofing manufacturer certifying that installed roofing system complies with requirements specified for product performance.
  - 1. Submit evidence of meeting performance requirements.
- D. Qualification Data: For Installer and manufacturer.
- E. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of roofing system.
- F. Research/Evaluation Reports: For components of roofing system.
- G. Maintenance Data: For roofing system to include in maintenance manuals.
- H. Warranties: Special warranties specified in this Section.
- I. Inspection Report: Copy of roofing system manufacturer's inspection report of completed roofing installation to be submitted to the Owner's representative prior to issuance of manufacturer's warranty.

#### 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: The Prime Contractor will be a qualified Roofing Company with an appropriate State of Tennessee license designation, that is approved, authorized, or licensed by the roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's warranty and can provide evidence of having a minimum of five years successful experience installing single-ply KEE/PVC roofing systems and has installed at least one roofing application of similar size and complexity within the past year. Submit a letter of certification from the manufacturer which certifies the roofing contractor is authorized to install the manufacturer's roofing system and lists the foreman for this project who has received

training from the manufacturer along with the dates training was received.

**Certification letter must be submitted as part of the Bid Packet.**

- B. Manufacturer Qualifications: A qualified manufacturer that has UL approval for roofing system identical to that specified for this Project.
- C. Source Limitations: Obtain components for roofing system approved by roofing system manufacturer.
- D. Fire-Test-Response Characteristics: Provide roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL, or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.
- E. Design Uplift Pressures:
  - 1. The installed roofing system must have been successfully tested by a qualified testing agency to resist the design uplift pressures calculated at a minimum in accordance with:
    - (a) ANSI/SPRI WD-1 “Wind Design Standard Practice for Roofing Assemblies”
    - (b) American Society of Civil Engineers (ASCE 7)
    - (c) Applicable sections of the current version of the International Building Code
- F. Preinstallation Conference: Conduct conference at Project site. Comply with requirements in sections of this specifications. Review methods and procedures related to roofing system including, but not limited to, the following:
  - 1. Meet with Owner, Owner’s representative.
  - 2. Review methods and procedures related to roofing installation, including manufacturer’s written instructions.
  - 3. Review and finalize construction schedule and verify availability of materials, Installer’s personnel, equipment, and facilities needed to make progress and avoid delays.
  - 4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
  - 5. Review structural loading limitations of roof deck during and after roofing.
  - 6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
  - 7. Review governing regulations and requirements for insurance and certificates if applicable.
  - 8. Review temporary protection requirements for roofing system during and after installation.
  - 9. Review roof observation and repair procedures after roofing installation.
- G. Final Inspection: Manufacturer’s representative shall provide a comprehensive final inspection after completion of the roof system All application errors must be addressed and final punch list completed in addition to the Owner’s representative’s final punch list items.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer’s name, product brand name and type, date of manufacture, and directions for storage.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

#### 1.8 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

#### 1.9 WARRANTY

- A. Special Warranty: Manufacturer's standard form, without monetary limitation, in which manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks.
  1. Special warranty includes roofing membrane, base flashings, roofing membrane accessories roof insulation fasteners walkway products and other components of roofing system.
  2. **Warranty Period: 20 years from date of Substantial Completion.**
  3. Provide certification of manufacturer's warranty reserve.

## 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Manufacturers: All components of the warranted system shall be provided by a single manufacturer or approved by the primary roofing manufacturer. Subject to compliance with requirements, provide products by one of the following:
  1. Mechanically attached (or fully adhered) heat-welded KEE/PVC thermoplastic sheet roof membrane system:
    - (a) FiberTite (Basis of Design) -nominal 36-mil ketone ethylene ester (KEE) membrane, reinforced with a 5.0-oz yd<sup>2</sup> knitted polyester fabric as manufactured by Seaman Corporation, under the trade name FiberTite, conforming to the physical properties as outlined in the associated data sheet. FiberTite exceeds all requirements outlined in ASTM D 6754 – Standard Specification for Ketone Ethylene Ester (KEE) Sheet Roofing. Membrane color shall be DC196 Off-White
    - (b) equivalent alternative to the basis of design meeting all the same requirements outlined in ASTM D 6754 – Standard Specification for Ketone Ethylene Ester (KEE) Sheet Roofing and referenced ASTM testing requirements. Membrane color shall be Off-White.
- B. The following requirements apply for product selection:
  1. Products: Subject to compliance with ASTM requirements, provide one of the products specified.
  2. Manufacturers: Subject to compliance with ASTM requirements, provide products by the manufacturers specified.



## 2.2 MECHANICALLY ATTACHED (OR FULLY ADHERED) HEAT-WELDED KEE SHEET ROOF MEMBRANE MATERIALS

- A. Roofing Membrane Sheet Material: nominal 36-mil ketone ethylene ester (KEE) membrane, reinforced with a 5.0-oz yd<sup>2</sup> knitted polyester fabric as manufactured by Seaman Corporation, under the trade name FiberTite, conforming to the physical properties as outlined in the associated data sheet. FiberTite exceeds all requirements outlined in ASTM D 6754 –02 Standard Specification for Ketone Ethylene Ester (KEE) Sheet Roofing. Membrane color shall be DC196 Off-White
- B. Roof Membrane Flashing Material: Membrane flashing materials shall be of same type, thickness, and color as the roofing sheet membrane.

## 2.3 ROOF MEMBRANE ACCESSORIES AND MATERIALS

- A. Furnish accessories manufactured, marketed or approved by MRSM required to complete the roof installation to manufacturer's specification including (as applicable) but not limited to the items listed below.
  - 1. Pre-formed membrane flashing materials to be of same type and color as the roofing membrane.
  - 2. Pre-formed vent boots with stainless steel clamping bands.
  - 3. Pre-formed universal corners.
  - 4. Pre-formed scupper opening liners
  - 5. Sheet Metal Flashings and Trim: Refer to Division 7 Section 07 62 00 "Sheet Metal Flashings and Trim" section of these specifications.
  - 6. Miscellaneous Accessories: Provide miscellaneous accessories recommended by roofing system manufacturer.
  - 7. ADHESIVES; application technique and coverage rates will vary according to substrate and environmental conditions.
    - a. FTR-190e Bonding Adhesive -A VOC compliant solvent borne, contact (two sided) bonding adhesive, designed for bonding non-fleece back FiberTite membranes to properly prepared and pre-authorized horizontal and vertical substrates.
  - 8. FTR-101 Sealant; a one-component gun-grade polyurethane sealant to seal flashing termination.
  - 9. FTR-SL1 Sealant; a one-component pourable, self leveling, polyurethane sealant to fill "pitch pans".
  - 10. Fiber Clad Metal; to fabricate metal flashing, 4' x 10' sheets of 24 gauge hot dipped G-90 steel, or 0.040 thick 3003H14 aluminum, laminated with a 0.020 mil polymeric coating.
  - 11. FTR-Pre-Molded Flashing(s); injection molded vent stack and inside/outside corner flashing using FiberTite KEE compound.
  - 12. FTR Non-Reinforced Membrane; field fabrication membrane, 0.060 mil non-reinforced KEE membrane.
  - 13. FTR-Tuff Track Walk Way & Protection Pads; high grade walk way/protection material with "slip resistant" design.
  - 14. FTR-Fasteners
    - a. FiberTite MAGNUM Series; to secure FiberTite to steel, wood and structural concrete decks.
    - b. FiberTite HD; to secure insulation to steel, wood and structural concrete decks.
  - 15. FTR-MAGNUM Series Barbed Stress Plates; used to anchor membrane
  - 16. FTR-Sand Dollar Insulation Stress Plates; used to secure insulation and/or cover-board to steel, wood and structural concrete decking. Manufactured from high

density polyethylene, 3 inch in diameter, designed with a self locking mechanism to secure the head of the FTR fasteners into the plate.

17. FTR-Termination Bar; membrane flashing(s) restraint/termination seals, nominal 1/8 inch x 1 inch x 10' 6060-T5 extruded aluminum bar with pre-punched slots, 8 inch on center.
18. FiberTite Metal Fascia System; two piece "snap-on" pre-formed, Architectural metal edge system.

#### 2.4 NOT USED.

#### 2.5 PRIMERS, SEALANTS, AND MECHANICAL FASTENERS

##### A. Primers

1. Membrane Primer: Solvent based primer for KEE membrane installations over metal fabrications and trim.

##### B. Sealants

1. One-Part Butyl-Based High Viscosity Sealant: Material as approved by selected KEE system roofing manufacturer for use as water block behind exposed termination bars and between roofing membrane and drain flashing rings.
2. Elastomeric Sealant: Material as approved by selected KEE system roofing manufacturer for use in sealing upper lip of exposed termination bars, and upper edge of penetration clamping rings. Material shall meet ASTM C-920-87, Type S Grade NS, Class 25 testing standards.
3. Not used.
4. KEE Cut Edge Sealant: Material as approved by selected KEE system roofing manufacturer for use in sealing non-factory edge membrane sheet materials.
5. General Building Construction Grade Joint Sealant: Refer to Section "Sealants and Caulking" section of these specifications.

##### C. Mechanical Fasteners

1. Membrane fasteners and plates, insulation fasteners and plates, and flashing fasteners and termination bar. Refer to roofing manufacturer's insulation and membrane Attachment Tables for selection of correct type, length, diameter and spacing of mechanical fasteners.

#### 2.6 ROOF INSULATION & PROTECTION BOARD

- A. General: Provide preformed roof insulation boards that comply with requirements and referenced standards for manufacturer's standard sizes and of thicknesses indicated.
- B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, 25 psi, glass-fiber mat facer on both major surfaces. Insulation shall be provided by same manufacturer issuing roof warranty and in accordance with local IBC requirements for thickness.
- C. Tapered Insulation: Provide factory-tapered insulation boards fabricated to slope of 1/8" per 12 inches and 1/4" per 12 inches to provide positive slope to drain or roof edge, unless otherwise indicated. (Reference paragraph "B" above for acceptable manufacturers of this product). 1/2 inch minimum at roof drains. Insulation Protection Board: 1/4" thick, fiberglass mat faced, noncombustible high density panel selected from manufacturer's standard sizes (as applicable).
  1. Acceptable Products (substitutions only as approved by Designer for compliance with Article 2.1A of this specification section):
    - (a) Dens Deck Prime as manufactured by Georgia-Pacific. ASTM E136
    - (b) SecureRock by US Gypsum.

- D. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.
- E. Tapered insulation design shall be provided by tapered insulation manufacturer for approval by the Designer.

## 2.7 INSULATION ACCESSORIES

- A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatible with membrane roofing.

## 2.8 WALKWAYS

- A. Premanufactured Walkway Pads (foot traffic pathways): Same material as sheet roof membrane except with different color for foot traffic pathways.
  - 1. Walkway pads must be spaced 6" apart to allow for drainage.
  - 2. Heat weld walkway pad to the roof membrane surface around the entire perimeter of the pad.
  - 3. Provide Shop Drawing Roof Plan for limited locations of walkway pads as may be required for standard roof maintenance and periodic inspection and as approved by the Owner during construction.

# 3 EXECUTION

## 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:
  - 1. Verify that roof openings and penetrations are in place and set and braced and that roof drains are securely clamped in place.
  - 2. Verify that blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
  - 3. Proceed with installation only after unsatisfactory conditions have been corrected.
  - 4. Verify deck surfaces are clean, dry and free of snow or ice and meeting roofing system manufacture's criteria for installation of products.

## 3.2 NOT USED

## 3.3 MECHANICALLY ATTACHED (OR FULLY ADHERED) INSULATION APPLICATION

- A. General
  - 1. Install insulation board as required in accordance with the roofing manufacturer's Design Table and Product Specifications. Roof insulation and protection board shall be installed where the long dimension of boards run in parallel alignment and the short dimensions are staggered.
- B. Placement.
  - 1. Butt insulation boards together with a 1/4" maximum space between adjoining boards. Fit insulation boards around penetrations and perimeter with a 1/4" maximum space between board and penetration.
  - 2. Install insulation boards in pieces a minimum of 2'x2' in size. Every piece shall be properly secured to the substrate.
  - 3. Insulation boards installed in multiple layers shall have the joints between boards staggered a minimum of 6" between layers.

4. Insulation boards installed over steel decking shall have boards placed perpendicular to the deck flutes with edges over flute surface for bearing support.
  5. Install tapered insulation to provide a sump area a minimum of 36"x36" where applicable.
  6. DO NOT install insulation boards that are wet, warped, or buckled; they must be discarded. Insulation boards that are broken, cracked, or crushed shall not be installed unless the damaged area is first removed and discarded.
  7. Remove and replace insulation boards that become wet or damaged after installation.
  8. Install no more insulation than can be properly covered by the end of each day with roofing membrane.
- C. Securement
1. Mechanical or Adhered Attachment
    - (a) Use appropriate type and length of roofing manufacturer's fastener for structural deck type. See Insulation Attachment Table provided by roofing manufacturer.
    - (b) Install required number of fasteners per insulation type, board size, and type of roofing system installed.
    - (c) Install fasteners such that the fastener plast is pulled slightly below the insulation board surface.
    - (d) Use fastener of correct length/amount as required by the Insulation Attachment Table. The use of any fastener greater than 8" in length must be preapproved by Roofing Manufacturer.

### 3.4 MECHANICALLY ATTACHED MEMBRANE INSTALLATION

#### A. General

1. Quality Control
  - (a) It will be the responsibility of the roofing contractor to initiate and maintain a QC program to govern all aspects of the installation of the Membrane Roofing System.
  - (b) The project foreman and or supervisor will be responsible for the daily execution of the QC program which will include but is not limited to the supervision, inspection and probing of all heat welding incorporated within the Membrane Roofing System.
  - (c) If inconsistencies in the quality of the application of the composite, membrane and/or welds are found, all work shall cease until corrective actions are taken to ensure the continuity the installation.
2. Coordinate installing roofing system so insulation and other components of the roofing membrane system not meant to be exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.
3. Provide tie-offs at end of each day's work to cover exposed roofing membrane sheets and insulation. The roofing installation must be made watertight at the end of each day's activity to prevent water infiltration into the completed roofing system installation. At the edge of the competed roofing system installation, extend the roofing membrane a minimum of 6" beyond the edge. Seal the roofing membrane to the surrounding deck substrate surface with foam sealant. Remove all temporary night seal materials prior to continuing with the roof installation and dispose of properly.
4. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system as the installation progresses.

5. Remove and discard temporary seals before beginning work on adjoining roofing.
- B. Membrane Surface Preparation
1. Membrane must be clean of dirt and contaminants, and free from dew, rain, and other sources of moisture. Factory-fresh membrane typically will not require cleaning prior to automatic welding, provided that welding is performed immediately after placement and securement of the membrane.
  2. Membrane that has been exposed for over 12 hours or has become contaminated will require additional cleaning methods.
  3. Clean membranes with products recommended by roof membrane manufacturer.
  4. New Membrane Roofing Systems shall only be installed over properly prepared and sound substrates, free from excessive surface roughness, dirt, debris and moisture.
- C. Placement.
1. Place roof membrane so that wrinkles and buckles are not formed. Remove any wrinkles or buckles from the sheet prior to permanent securement. Roof membrane must be mechanically fastened after it is rolled out, followed by welding to adjacent sheets.
  2. Full-width rolls must be installed in the field of the roof.
  3. Half-width rolls must be installed in the perimeter region of the roof. Width of the roof perimeter region must be determined in accordance with the Perimeter Half Sheet Table provided by the Roofing Manufacturer.
  4. Overlap roof membrane a minimum of 6" for side laps of mechanically attached systems, and a minimum of 3" for end laps. Membranes are provided with lap lines along the side laps, the inside line is for mechanically attached system overlaps and the other line is for adhered systems overlaps at parapets.
  5. Install membrane so that the laps run across the roof slope lapped toward drainage points. On metal decking, install sheets perpendicular to deck direction so that fasteners will penetrate the top flanges and not the flutes; however, there will be limited areas of the roof (i.e. perimeter areas) where this is not practical.
  6. All exposed sheet corners shall be rounded a minimum of 1".
  7. Overlap roof membrane a minimum of 3" for end laps
- D. Securement
1. Roof membrane shall be mechanically fastened in the side lap area to the roof deck with fasteners and plates of a type and spacing (or fully adhered) appropriate to the deck type and as required by the Roof Manufacturer's Membrane Attachment Table.
  2. The metal plates must be placed within 1/4" -3/4" of the membrane edge. Plates must not be placed closer than 1/4" to the membrane edge.
  3. Fasteners must be installed to achieve the proper embedment depth. Install fasteners vertical to the deck, without lean or tilt.
  4. In the corner areas, additional fasteners will also be installed through the perimeter half-width membrane rolls to form a grid pattern, with an 8" wide reinforced membrane flashing strip heat-welded over the additional fasteners. "Corners" include both outside and inside corners that measure 75°-105°. Perimeter cap sheets may overlap one another in the corner areas. Alternatively, the half sheet may be laid out in a "picture frame" manner, burying the fasteners under the half sheets.
  5. Mechanically attach membrane with screws and plates to the roof deck at locations of deck angle changes in excess of 5° (2" in 12").

6. Membrane must be secured to the roof deck within 6" of the base of walls and curbs, at the perimeter, and all penetrations with roofing manufacturer fasteners of a type and spacing in accordance with in-lap attachment requirements, with a 12" on center maximum spacing. Alternatively, membrane may be extended vertically 3" up walls and curbs and secured to the wall/curb substrate within 2" of the plane of the roof with Roof manufacturer Fasteners and inverted Termination Bar of type and spacing in accordance with in-lap attachment requirements, with a 12" on center maximum spacing. This alternative detail is required to be used for pressurized buildings.
  7. Install fasteners so that the plate is drawn down tightly to the membrane surface. Properly installed fasteners will not allow the plate termination bar to move (underdriving), but will not cause wrinkling of the membrane (overdriving).
- E. Field Seaming
1. Fabricate field seams using a current-generation automatic hot air welding machine and a 10,000 watt voltage controlled generator minimum. Outdated welding equipment and inadequate/fluctuating electrical power are the most common causes of poor seam welds.
  2. Equipment Settings-The correct speed and temperature settings for automatic welders are determined by preparing test welds at various settings. The welds are tested by applying pressure to cause the seam to peel apart. A satisfactory weld will fail by exposing the scrim reinforcement called a "film tearing bond." A deficient weld fails by separating between the two layers of the membrane.
  3. Adjustments to Equipment Settings -Many factors will affect the settings: thicker membranes, lower air temperatures, and overcast skies will generally require a slower speed than would be required with thinner membranes, higher air temperatures, and sunny skies. The slower speed provides additional heat energy to compensate for heat-draining conditions. The test weld procedure should be conducted at the beginning of every work period (i.e., morning and afternoon) and following a significant change in weather (i.e., air temperature, wind speed, cloud cover.)
  4. Membrane laps shall be heat-welded together. All welds shall be continuous, without voids or partial welds. Welds shall be free of burns and scorch marks.
  5. Weld width shall be a minimum 1-1/2" in width for automatic machine welding. Weld width shall be a minimum 2" in width for hand welding.
  6. All cut edges of reinforced membrane must be sealed with roof membrane manufacturer Cut Edge Sealant.
- F. Parapet and Building Walls
1. Flash wall caps with loose-applied reinforced membrane flashing. Place membrane so that wrinkles and bubbles are not formed. Overlap side laps a minimum of 3 inches.
  2. Secure membrane flashing at the top inside edge with a termination bar. Water Block shall be applied between the wall surface and membrane flashing underneath all termination bars. Install termination bars behind wall cap counterflashing and fasten 6" on center.
  3. Roof membrane must be mechanically attached along the base of walls that are flashed with membrane flashing with screws and plates / termination bar with 12" on center maximum spacing.
  4. All coated metal wall flashings must be provided with separate metal counterflashings, or metal copings.
  5. All termination bars must be sealed with caulking.

6. Flash wall scuppers with a scupper insert of coated metal that is mechanically attached to the wall and integrated as part of the wall flashing.
7. Maximum flashing height without intermediate fastening: 18" -Loose-Applied Flashing.
8. Metal cap flashings shall have continuous cleats or be face-fastened 12" o.c. on both the inside and outside of the walls.
9. Secure reinforced wall flashing membrane with termination bar fastened at 12" o.c.

### 3.5 ADHERED ROOFING INSTALLATION

- A. Adhere roofing over area to receive roofing according to roofing system manufacturer's written instructions. Unroll roofing and allow to relax before retaining.
- B. Retain first paragraph below if applicable.
- C. Start installation of roofing in presence of roofing system manufacturer's technical personnel.
- D. Accurately align roofing, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- E. Retain "Bonding Adhesive" Paragraph below for adhesive bonding roofing to substrate.
- F. Bonding Adhesive: Apply to substrate and underside of roofing at rate required by manufacturer, and allow to partially dry before installing roofing. Do not apply to splice area of roofing.
- G. In addition to adhering, mechanically fasten roofing securely at terminations, penetrations, and perimeter of roofing.
- H. Apply roofing with side laps shingled with slope of roof deck where possible.
- I. Seams: Clean seam areas, overlap roofing, and hot-air weld side and end laps of roofing and sheet flashings according to manufacturer's written instructions, to ensure a watertight seam installation.
  1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet.
  2. Revise number of seam tests in first subparagraph below to suit Project.
  3. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
  4. Repair tears, voids, and lapped seams in roofing that do not comply with requirements.
- J. Spread sealant bed over deck-drain flange at roof drains, and securely seal roofing in place with clamping ring.

### 3.6 MEMBRANE FLASHING INSTALLATION

- A. General
  1. Flash all perimeter, curb, and penetration conditions with membrane flashing, and flashing accessories as appropriate to the site condition.
  2. All membrane flashing corners shall be reinforced with preformed corners or unreinforced membrane.
  3. Heat weld all flashing membranes and accessories, together to achieve a minimum 2" wide (hand welder) weld.
  4. All cut edges of reinforced membrane must be sealed with Cut Edge Sealant.

5. When using bonding adhesive, be sure to use adhesive specific to membrane type.
  6. Typical minimum flashing height is 8". Consult manufacturer's approval for existing conditions where this dimension is unattainable.
  7. 7. The maximum distance from the parapet wall that horizontal mechanical attachment is installed is 6". When a 6" distance must be exceeded, move the mechanical attachment to the vertical substrate.
- B. Adhered Reinforced Membrane Flashings -Smooth Surface
1. The thickness of the flashing membrane shall be the same as the thickness of the roofing membrane.
  2. When using membrane adhesives, use any one of the following substrates: polyisocyanurate insulation (w/o foil facer), high density wood fiber board, gypsum, cured structural concrete absent of curing and sealing compound, untreated oriented strand board (OSB), untreated CDX plywood, Type X gypsum board, and dry, sound masonry absent of curing or sealing compounds.
  3. Apply bonding adhesive to both the substrate surface and the underside of the flashing membrane, at the rate of 60 sq. ft. of finished, mated surface area per gallon for solvent-based bonding adhesives. Coverage rates will vary depending on substrate. The solvent adhesive must be allowed to dry until tacky to the touch before flashing membrane application.
  4. Apply the adhesive only when the outside temperature is above 40°F. Recommended minimum application temperature is 50°F to allow easier adhesive application.
  5. The membrane flashing shall be carefully positioned prior to application to avoid wrinkles and buckles.
  6. All laps in smooth-reinforced flashing membrane shall be heat welded in accordance with heat welding guidelines.
  7. Porous substrates may require double application of adhesive.
  8. For extended guarantee lengths, separate counterflashing or cap flashing is required; exposed termination bars are not acceptable.
  9. All cut edges of reinforced membranes must be sealed with membrane manufacturer's Cut Edge Sealant.

### 3.7 FLASHING

#### A. Flashing

1. Clean all vents, pipes, conduits, tubes, walls, and stacks to bare metal. All protrusions must be properly secured to the roof deck with approved fasteners.
2. Flash all curbs, parapets and interior walls in strict accordance with approved MRSM details.
3. The base flange of all membrane flashing shall extend out on to the plane of the deck, beyond the wood nailers to a maximum width of 8 inches.
4. Vertical flashing shall be terminated no less than 8 inch above the plane of the deck with approved termination bar and counter-flashing or metal cap flashing.
5. Complete all inside and outside corner flashing details with MRSM pre-formed corners or an approved field fabrication detail.
6. Probe all seams with a dull, pointed probe to ensure the weld has created a homogeneous bond.

#### B. Metal Flashing

1. All perimeter edge details are to be fabricated from Polymeric-Clad Metal or utilize a prefabricated Fascia System.



2. Fasten all metal flashing to wood nailers or approved substrate with approved fasteners 8 inches on center.
  3. Install metal flashing in accordance with MRSM Published Specifications and Construction Details.
- C. Sealants
1. Apply authorized sealant(s) to all surface mounted reglets and per project requirements. Sealant(s) are to shed water. Follow all manufacturer's instructions and installation guides.
  2. Use primer when recommended by the manufacturer.
  3. Sealants will require periodic maintenance by the building owner's maintenance personnel.

### 3.8 WALKWAY INSTALLATION

- A. Walkway Pads: Install traffic walkway pads at locations indicated on drawings, submitted for approval by the owner. Standard walkway pad dimension shall be 30 x 48 with rounded corners. Space individual pads 6" apart to allow for roof drainage.
- B. Install walkway Pad Material between roof accessory contact points and finished roof membrane surfaces where occurs.
- C. Heat-weld walkway pads to the roof membrane surface around the entire perimeter of the pad.

### 3.9 ROOF DRAIN INSERT INSTALLATION

- A. Remove the existing insert. Clean inside of existing pipe. Install insert in accordance with manufacturer's instructions for particular roof system.

### 3.10 NEW ROOF DRAIN INSTALLATION

- A. Flash all roof drains in accordance with MRSM roof drain details.
- B. Minimum 60-mil non-reinforced membrane shall be used for flashing the drain assembly.
- C. The drain target sheet should be sized and installed to provide for a minimum of 12 inch of exposed 60-mil on all sides of the drain

### 3.11 FIELD QUALITY CONTROL

- A. Inspect completed roof sections on a daily basis. It is the Contractor' responsibility to probe all heat-welded seams and perform an adequate number of seam cuts to ascertain seam consistency.
- B. Immediately correct all defects, irregularities, and deficiencies identified during inspections.
- C. Remedial work shall be performed with like materials and in a manner consistent with the balance of the roofing installation so as to minimize the number of repair patches.
- D. Excessive patchwork will require replacement of the entire affected membrane section, from lap to lap.
- E. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Designer.
  1. Notify Designer or Owner 48 hours in advance of date and time of inspection.
- F. Repair or remove and replace components of roofing system where test results or inspections indicate that they do not comply with specified requirements.
- G. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

- H. Ensure that all aspects of the installation (sheet layout, attachment, welding, flashing details, etc.) are in strict accordance with the most current MRSM Specifications and Details.
- I. Excessive patching of field seams because of inexperienced or poor workmanship will not be accepted at time of FINAL INSPECTION FOR WARRANTY ACCEPTANCE.

3.12 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Designer and Owner.
- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Remove bonding adhesive, bituminous markings and other contaminants from finished surfaces. In areas where finished surfaces are soiled by asphalt or any other source of soiling cause by work of this or other sections, consult manufacturer of surfaces for cleaning advice and conform to those instructions.
- D. Cut out and remove any sheet membrane contaminated with solvent-based adhesive, bituminous markings, and other contaminants from finished surface. Repair sheet damage by first cleaning the area with an all-purpose cleaner, then rinse off soapy residue. Reactivate membrane using the appropriate cleaner, wiping with a damp (not saturated) rag. Complete repair by installing a patch of like material to specific system requirements.

3.13 COMPLETION

- A. Remove any and all debris, excess materials and scrap of any kind from the roof and surrounding premises prior to demobilization.
- B. Inspect all field welds, detailing and terminations to ensure a 100% the watertight installation.

3.14 WARRANTY INSPECTION

- A. Upon completion of the project, the authorized roofing contractor shall complete and submit the MRSM Project Completion Notice.
- B. Upon receipt of the notice of completion, a Technical Representative of the MRSM shall schedule an inspection with a representative of the authorized roofing contractor to thoroughly review the installation and verify compliance with MRSM specifications.
- C. Any corrections or modifications necessary for compliance with the specifications and acceptance for warranty (punch list) will be noted on the Final Inspection for Warranty Form.
- D. Upon completion of all punch list items and final acceptance of the installation, a warranty as authorized by the MRSM will be issued

END OF SECTION

## **SECTION -- SHEET METAL FLASHING AND TRIM**

### **1 GENERAL**

#### **1.1 SECTION INCLUDES**

- A. Coping.
- B. Counterflashings over base flashings.
- C. Counterflashings at roof mounted equipment and vent stacks.

#### **1.2 SUBMITTALS**

- A. Submit under provisions of Sections.
- B. Product Data: Color chart and information about factory coating.
- C. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.

#### **1.3 QUALITY ASSURANCE**

- A. Perform work in accordance with standard details and requirements.

#### **1.4 QUALIFICATIONS**

- A. Fabricator and Installer: Company specializing in sheet metal flashing work with 5 years experience.

#### **1.5 DELIVERY, STORAGE, AND HANDLING**

- A. Stack performed and prefinished material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- B. Prevent contact with materials which may cause discoloration or staining.

#### **1.6 WARRANTY**

- A. Provide a warranty against defects in workmanship and material for a period of 2 years.

### **2 PRODUCTS**

#### **2.1 SHEET MATERIALS**

- A. Galvanized Steel: ASTM A653/A653M; structural steel sheet, G90 (Z275) zinc coating; 24 gage, or as otherwise indicated on drawings.
- B. Pre-Finished Galvanized Steel: ASTM A446, Grade A, G90 zinc coating; minimum thickness 24 gage core steel, shop pre-coated with fluoropolymer coating color as selected from manufacturer's standard, equal to PACCLAD by Petersen Aluminum or ColorKlad by Vincent Metals; color as selected from manufacturer's standard.

#### **2.2 ACCESSORIES**

- A. Fasteners: Same material and finish as flashing metal.
- B. Underlayment ASTM D226 or D2178, No. 15 asphalt saturated roofing felt.
- C. Slip Sheet: Rosin sized building paper.
- D. Primer: Zinc chromate type.
- E. Protective Backing Paint: Zinc chromate alkyd or bituminous.
- F. Sealant: Polyurethane ASTM C 920 type, S Grade NS Class 25.
- G. Bedding Compound: Rubber-asphalt type.
- H. Plastic Cement: ASTM D4586, Type II.

## 2.3 FABRICATION

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Fabricate cleats of same material as sheet, minimum 1.25 inches wide, interlockable with sheet.
- C. Form pieces in longest possible lengths.
- D. Hem exposed edges on underside ½ inch; miter and seam corners.
- E. Form material with standing seams.
- F. Pre-tin edges of sheets to be soldered. Solder shop formed metal joints. After soldering, remove flux. Wipe and wash solder joints clean. Weather seal joints.
- G. Fabricate corners from one piece with minimum 18 inch long legs; seam solder for rigidity, seal with sealant.
- H. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.
- I. Fabricate flashings to allow toe to extend minimum 4 inches over roofing. Return and brake edges.

## 2.4 FINISH

- A. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil.

# 3 EXECUTION

## 3.1 EXAMINATION

- A. Verify roof openings, curbs, pipes, sleeves, ducts, or vents through roof are solidly set, curb flashing receivers in place, and nailing strips located.
- B. Verify roofing termination and base flashings are in place, sealed, and secure.

## 3.2 PREPARATION

- A. Install starter and edge strips, and cleats before starting installation.
- B. Install surface mounted curb flashing receivers true to lines and levels.

## 3.3 INSTALLATION

- A. Conform to the drawing details of the SMACNA manual.
- B. Insert counter flashings into flashing receivers to form tight fit.
- C. Apply plastic cement compound between metal flashings and felt flashings.
- D. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- E. Seal joints watertight for aluminum and prefinished galvanized metal.
- F. For copper, galvanized steel, and stainless steel solder metal joints for full metal surface contact. After soldering, wash metal clean with neutralizing solution and rinse with water.
- G. Set splash pads under downspouts at grade level.
- H. Seal metal joints watertight.

END OF SECTION

## SECTION -- SEALANTS AND CAULKING

### 1 GENERAL

#### 1.1 SECTION INCLUDES

- A. Prepare substrata surfaces.
- B. Sealant and Caulking backing.
- C. Sealant and Caulking.

#### 1.2 SUBMITTALS

- A. Submit under provisions of Sections.
- B. Manufacturers literature describing materials and application recommendations including requirements for joint preparation and primers.
- C. Samples:
  - 1. Submit color samples.

#### 1.3 WARRANTY

- A. Warranty period for this work is for two years for cracking, spalling, leaching, delamination, disintegration, and durability by the manufacturer and applicator for material and workmanship.

### 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Tremco Incorporated, Beachwood, OH.
- B. Pecora Corporation, Harleysville, PA.
- C. Sonneborn Building Products, Chem Res Inc., Minneapolis, MN.
- D. Firestone, Carmel, IN.
- E. Approved Equal.

#### 2.2 MATERIALS

- A. Exterior and interior joints subject to movement gun-grade polyurethane sealant shall be one of the following types:
  - 1. Tremco "Vulkem 921".
  - 2. Pecora "Dynatrol I-XL".
  - 3. Sonneborn "Sonolastic NP 2".
  - 4. Approved Equal.
- B. Interior/Exterior self-leveling polyurethane for horizontal joints shall be one of the following types:
  - 1. Firestone "Pourable Sealant".
  - 2. Tremco "Vulkem 45".
  - 3. Pecora "NR-201 Urexpan".
  - 4. Sonneborn "Sonolastic SL1".
  - 5. Approved Equal.
- C. Joint Filler: Shall be ethafoam backer rod extruded polyurethane foam as manufactured by Dow Chemical Corporation, or approved equal. In joints too small to use rod type backing material, architectural release tape shall be substituted.

### 3 EXECUTION

### 3.1 INSPECTION

- A. Verify joint dimensions, physical, and environmental conditions are acceptable to receive work of this section.
- B. Beginning of installation means acceptance.

### 3.2 PREPARATION

- A. Clean, prepare, and size joints in accordance with manufacturers instructions. Remove any loose materials and other foreign matter which might impair adhesion of sealant.
- B. Verify that joint shaping materials and release tapes are compatible with sealant.
- C. Examine joint dimensions and size materials to achieve required width/depth ratios.
- D. Use joint filler to achieve required joint depths, to allow sealants to perform properly.
- E. Use bond breaker where required.

### 3.3 INSTALLATION

- A. Perform work in accordance with ASTM C804 for solvent release and C790 for latex base sealants.
- B. Install sealant in accordance with manufacturers instructions.
- C. Apply sealant within recommended temperature ranges. Consult manufacturer when sealant cannot be applied within recommended temperature ranges.
- D. Tool joints concave or as indicated.
- E. Joints: Free of air pockets, foreign embedded matter, ridges, and sags.

END OF SECTION

# ROBERTSON COUNTY DETENTION CENTER 2019 ROOF REPLACEMENT PROJECT

REVISIONS			
NO.	DATE	BY	DESCRIPTION

311 5TH AVE.  
SPRINGFIELD, TN 37172  
ROBERTSON COUNTY

## CONTRACTOR'S NOTES:

THE CONTRACTOR'S WORK TO BE PERFORMED UNDER THIS PROJECT WILL CONSIST OF FURNISHING ALL EQUIPMENT, LABOR, MATERIALS, TOOLS AND SUPERVISION NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED BUILDINGS AND OTHER RELATED WORK AS LISTED IN THE PLANS AND SPECIFICATIONS.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, UTILITY LOCATIONS, ELEVATIONS, EXISTING INVERTS PRIOR TO ORDERING ANY MATERIAL. IF A DISCREPANCY IS FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR REPRESENTATIVE IMMEDIATELY.

ALL WORK SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL CODES AND LAWS. ALL NECESSARY LICENSES AND PERMITS NOT OBTAINED BY THE OWNER SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

ALL WORK PERFORMED SHALL BE IN THE BEST RECOGNIZED TRADE PRACTICES AND TO THE ENTIRE SATISFACTION OF THE OWNER.

EXISTING STRUCTURE IS A COUNTY OPERATED DETENTION FACILITY THAT MUST REMAIN UNINTERRUPTED FOR NORMAL OPERATIONS. LIMITED ACCESS THROUGH THE FACILITY WILL BE APPROVED AND SHOULD BE AVOIDED DUE TO SECURITY MEASURES AND DELAYS DUE TO STANDARD PROCEDURES. ALL CONTRACTOR ACCESS FOR PROJECT SHOULD ASSUME EXTERIOR ACCESS FOR ALL MATERIALS AND PERSONNEL USING CONTRACTOR PROVIDED LIFTING DEVICES.

### CODE INFORMATION

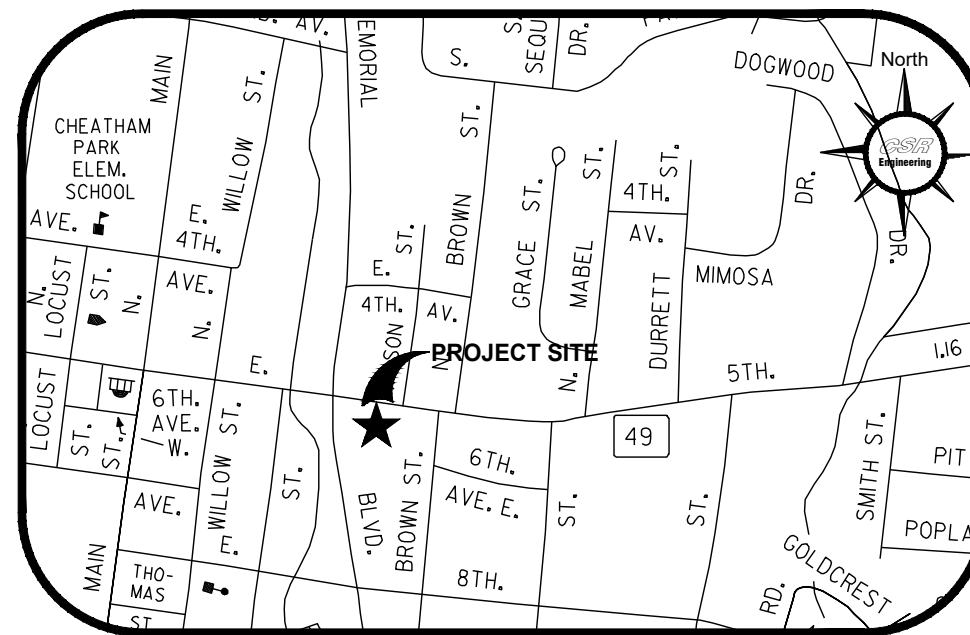
2012 INTERNATIONAL BUILDING CODE

2012 INTERNATIONAL FIRE CODE

2012 NEPA 101 LIFE SAFETY CODE

2009 INTERNATIONAL ENERGY CONSERVATION CODE

APRIL 2019



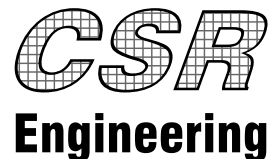
LOCATION MAP

### UTILITY COMPANIES:

GAS :  
SPRINGFIELD GAS SYSTEM  
1311 R. W. GORDON DRIVE  
SPRINGFIELD, TN 37172  
(615)382-1621

WATER/SEWER :  
WATER & WASTEWATER  
924 CENTRAL AVENUE WEST  
SPRINGFIELD, TN 37172  
(615)382-1600

ELECTRIC :  
ELECTRIC DEPARTMENT  
1000 CENTRAL AVENUE  
SPRINGFIELD, TN 37172  
(615)384-6770



CSR Engineering, Inc.  
1116 Main Street  
Pleasant View, TN 37146  
P: 615.212.2389  
F: 615.246.3815  
www.csrengineers.com

## INDEX OF DRAWINGS

SHEET	DESCRIPTION
T1.	TITLE SHEET
1.	ROOF KEY & NOTES
2.	ROOF PLAN



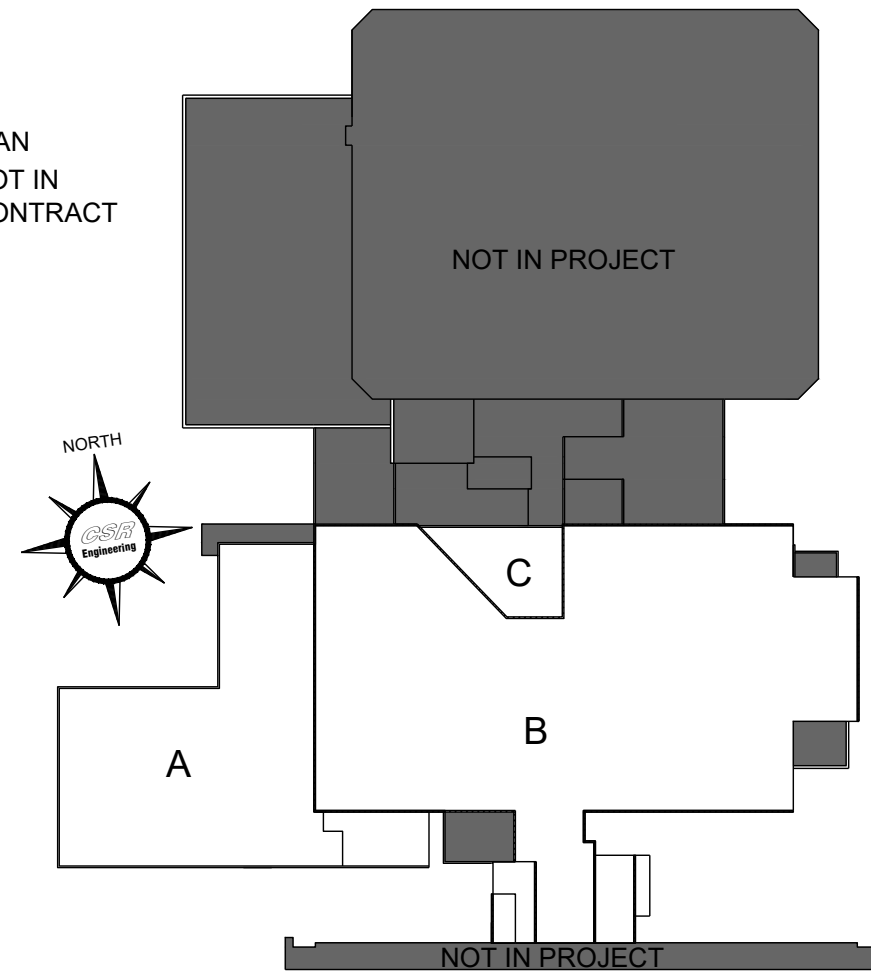
### CONTACT

TONY CRAWFORD  
JAIL ADMINISTRATOR  
311 5TH AVE. E  
SPRINGFIELD, TN 37172  
(615)384-7974





KEY PLAN  
 NOT IN CONTRACT



**GENERAL NOTES**

1. CONTRACTOR IS TO VERIFY ALL INFORMATION INCLUDING DIMENSIONS, CURB LOCATIONS, ROOF PENETRATIONS, ROOF DRAINAGE, AND PERIMETER CONDITIONS.
2. SPECIAL PRECAUTIONS SHOULD BE TAKEN TO AVOID OVERLOADING OF THE ROOF STRUCTURE. DO NOT STACK MATERIALS WHICH WOULD ADD CONCENTRATED LOADS TO THE STRUCTURE.
3. ALL CURBS, VENTS, AND REGLET FLASHINGS SHALL MEET THE 8" MINIMUM REQUIREMENT ABOVE THE NEW ROOF SYSTEM UNLESS OTHERWISE NOTED OR APPROVED BY THE OWNER/REPRESENTATIVE. CONTRACTOR SHALL EXTEND ALL STACKS, PIPES, WIRES, DUCTWORK, ETC. AS NECESSARY FOR NEW ROOF ELEVATION AND 8" MINIMUM FLASHING HEIGHT.
4. INSPECT EXISTING VENT STACKS INCLUDING CONNECTIONS TO FIXTURES OR EQUIPMENT TO VERIFY THAT ALL JOINTS AND CONNECTIONS ARE TIGHT AND INTACT. NOTIFY SUBS CONSULTANT IF ANY DEFICIENCIES ARE FOUND.
5. CONTRACTOR SHALL INSTALL NEW WOOD NAILERS AND BLOCKING AS REQUIRED. CONTRACTOR SHALL INSTALL NEW PRESSURE TREATED NAILERS AT CURBS AS NEEDED TO MEET MINIMUM FLASHING HEIGHT.
6. CONTRACTOR SHALL VERIFY DOWNSPOUT LOCATIONS PRIOR TO INSTALLATION TO AVOID CONFLICTS WITH EXISTING OPENINGS AND OTHER FIXTURES, AND TO COINCIDE WITH NEW.
7. CONTRACTOR MUST VERIFY PROPER DRAINAGE HAS BEEN ACHIEVED. NOTIFY SUBS OF ANY AREAS WHICH WILL NOT DRAIN PROPERLY PRIOR TO INSTALLING ROOF MEMBRANE. IT IS THE INTENT OF THE DESIGN TO ELIMINATE PONDING WATER.
8. ROOF REMOVAL (AREA "A", & "B")  
 REMOVE EXISTING MODIFIED BITUMEN ROOF SYSTEM AND INSULATION DOWN TO THE CONCRETE ROOF DECK AND DISPOSE OFFSITE. REMOVE EXISTING PERIMETER WOOD NAILERS AND MISCELLANIES ROOFING DETAILS AND ATTACHMENTS.  
 INSPECT EXISTING CONCRETE DECK SUBSTRATE FOR DAMAGE OR DETERIORATION AND NOTIFY ROOF CONSULTANT IF UNSUITABLE FOR ROOFING.

9. ROOF REMOVAL (AREA "C")  
 REMOVE EXISTING BITUMEN ROOF SYSTEM, INSULATION AND LIGHTWEIGHT TOPPING DOWN TO THE ROOF STRUCTURAL DECK MATERIAL. CONTRACTOR TO NOTIFY PROJECT REPRESENTATIVE IMMEDIATELY OF ANY NEW INFORMATION FOUND AFFECTING NEW ROOF OPTIONS IN THIS AREA.  
 ALL OTHER ROOF DEMO ITEMS FOR AREA "C" SAME AS "A" & "B".
10. NEW ROOF SYSTEM (AREA "A", "B" & "C")  
 INSTALL NEW TAPERED POLYISOCYANURATE ROOF INSULATION DIRECTLY OVER THE CONCRETE DECK. (MIN. THICKNESS AS REQUIRED PER IBC 2012) (SLOPE 1/8" PER FOOT MIN.)  
 ATTACH THE TAPERED ROOF INSULATION TO THE CONCRETE ROOF DECK WITH AN APPROVED ADHESIVE OR MECHANICAL CONNECTION.  
 ATTACH 1/2" THICK HD POLYISOCYANURATE ROOF INSULATION OVER THE NEW TAPERED ROOF INSULATION STAGGERING THE INSULATION BOARDS ACCORDINGLY.  
 INSTALL ADDITIONAL PRESSURE TREATED WOOD BLOCKING OR PLYWOOD SHEATHING AT PERIMETER ROOF EDGES AS REQUIRED TO MATCH INSULATION THICKNESS.  
 INSTALL A NEW KEE MEMBRANE ROOF SYSTEM OVER THE NEW HD POLYISOCYANURATE COVERBOARD.  
 INSTALL ALL NEW PREFINISHED METAL FASCIAS, DRIP EDGES, GUTTERING, AND DOWNSPOUTS (ONLY AS REQUIRED FOR NEW MEMBRANE DRAINAGE CONNECTION) .

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**ROOF KEY & NOTES**  
 FOR  
**ROOF PLANS**  
 FOR  
**ROBERTSON COUNTY DETENTION CENTER**

REVISIONS	
NO.	DESCRIPTION

DESIGNER **MH**  
 REVIEWER **JR**

PROJECT **18-144**

DATE **04-03-19**

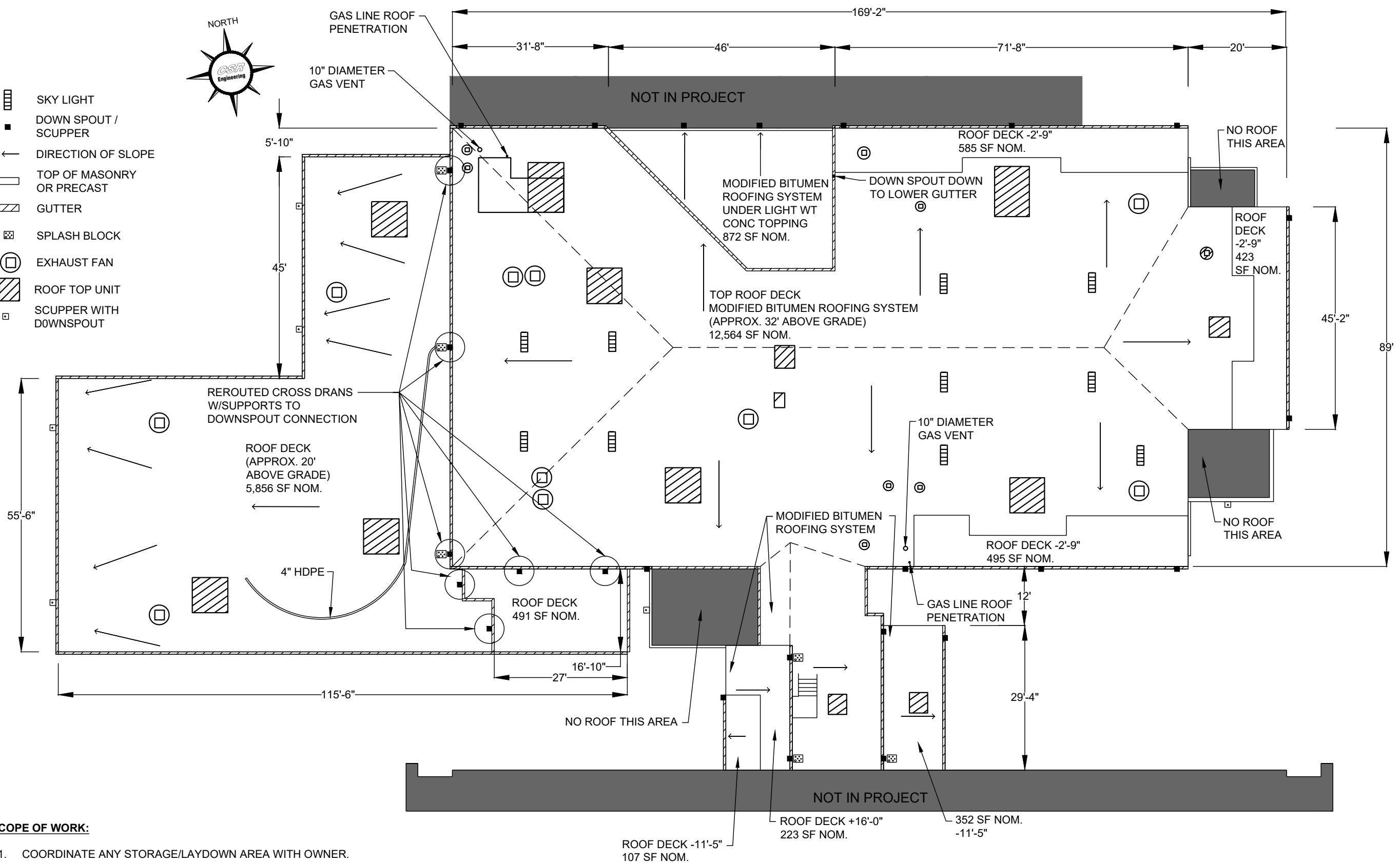
SHEET **1**







**ROOF PLAN**  
ROOF PLANS  
FOR  
ROBERTSON COUNTY DETENTION CENTER



**SCOPE OF WORK:**

1. COORDINATE ANY STORAGE/LAYDOWN AREA WITH OWNER.
2. PROVIDE COMPLETE TEAR-OFF OF EXISTING ROOF AND INSTALLATION MATERIALS DOWN TO STRUCTURAL DECK.
3. INSTALL NEW ROOF INSULATION TO CODE REQUIREMENTS.
4. INSTALL NEW ROOF MEMBRANE IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS INCLUDING WARRANTY APPROVAL.
5. INSTALL NEW ROUTING FOR ROOF DRAINAGE DOWNSPOUTS ACROSS LOWER ROOF SECTION.
6. FINAL CLEAN UP AND DEBRIS HAUL-OFF AND DISPOSAL.

NO.	DATE	BY	DESCRIPTION

DESIGNER **MH**  
REVIEWER **JLR**

PROJECT **18-144**

DATE **04-03-19**

SHEET **2**

