



STATE OF UTAH - DEPARTMENT OF ADMINISTRATIVE SERVICES

**Division of Facilities Construction and Management**

**DFCM**

**MULTI-STEP BIDDING PROCESS  
FOR  
CONTRACTORS**

**Request For Solicitation For  
Construction Services**

**Stage II – Roofing Contractors Bidders List FY10**

**June 25, 2009**

**GENEVA BUILDING RE-ROOF  
UTAH VALLEY UNIVERSITY  
OREM, UTAH**

**DFCM Project No. 09079790**

**McNeil Engineering**

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Current copies of the following documents are hereby made part of these contract documents by reference. These documents are available on the DFCM web site at <http://dfcm.utah.gov> or are available upon request from DFCM:

DFCM Supplemental General Conditions dated July 15, 2008  
DFCM General Conditions dated May 25, 2005  
DFCM Application and Certificate for Payment dated May 25, 2005

Technical Specifications:  
Drawings:

**The Agreement and General Conditions dated May 25, 2005 have been updated from versions that were formally adopted and in use prior to this date. The changes made to the General Conditions are identified in a document entitled Revisions to General Conditions that is available on DFCM's web site at <http://dfcm.utah.gov>**

## INVITATION TO BID

**ONLY FIRMS PRE-QUALIFIED DURING STAGE I OF THE RFS ARE ALLOWED TO BID ON THIS PROJECT**

The State of Utah - Division of Facilities Construction and Management (DFCM) is requesting bids for the construction of the following project:

**Project Name: Geneva Building Re-roof – Utah Valley University – Orem, Utah**  
**DFCM Project No: 0979790**

**Project Description: Removal and disposal of existing single ply roofing system. Installation on new 60 mil TPO roofing system with necessary flashings and metal copings. Provide alternate prices as indicated.**  
**Construction Cost Estimate: \$150,000.00**

<b>Company</b>	<b>ontact</b>	<b>Fax</b>
Capitol Roofing Service	Stewart Paulsen	801-562-1159
Collins Roofing, Inc.	Doug Collins	801-341-8075
Contract West Roofing	Craig Peters	801-943-0257
Conwest, Inc.	Jeff Rogers	801-553-0642
Heritage Roofing	James Smith	801-576-8311
Island Heights Construction	Alan Ringe	435-753-7452
Kendrick Brothers Roofing	Brent Wood	801-731-2020
Mt. Peak Roofing	Zane Rust	435-787-4174
Nielco Roofing	Mike Wamsley	801-263-0485
Noorda Architectural Metals, Inc.	Janies Bywater	801-503-3004
Northern Roofing Consultants	Jared Flynn	801-394-2384
Redd Roofing Company	Kyle Redd	801-621-1540
Summit Roofing	Philip Whiting	801-789-8671
Superior Roofing	Scott Handy	801-266-1522
Warburton's, Inc.	Daison Nault	801-785-6651

The bid documents will be available on **Thursday, June 25, 2009** in electronic format only on CDs from DFCM at 4110 State Office Building, Salt Lake City, Utah 84114, telephone (801)538-3018 and on the DFCM web page at <http://dfcm.utah.gov>. For questions regarding this project, please contact **Matt Boyer**, Project Manager, DFCM, at **(801)541-0945**. No others are to be contacted regarding this project.

A **MANDATORY** pre-bid meeting and site visit will be held at **8:30 AM on Tuesday, June 30, 2009 at 1410 W. Business Park Drive, Orem, Utah**. All pre-qualified prime contractors wishing to bid on this project must attend this meeting.

Bids must be submitted by **3:00 PM on Monday, July 6, 2009** to DFCM, 4110 State Office Building, Salt Lake City, Utah 84114. Bids will be opened and read aloud in the DFCM Conference Room, 4110 State Office Building, Salt Lake City, Utah. Note: Bids must be received at 4110 State Office Building by the specified time. The contractor shall comply with and require all of its subcontractors to comply with the license laws as required by the State of Utah.

A bid bond in the amount of five percent (5%) of the bid amount, made payable to the Division of Facilities Construction and Management on DFCM's bid bond form, shall accompany the bid.

The Division of Facilities Construction & Management reserves the right to reject any or all bids or to waive any formality or technicality in any bid in the interest of the State.

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT  
JOANNA REESE, CONTRACT COORDINATOR  
4110 State Office Bldg., Salt Lake City, Utah 84114

## **STAGE II - MULTI-STEP BIDDING PROCESS**

**ONLY FIRMS PRE-QUALIFIED DURING STAGE I OF THE RFS ARE ALLOWED TO BID ON THIS PROJECT**

### **1. Invitational Bid Procedures**

The following is an overview of the invitational bid process. More detailed information is contained throughout the document. Contractors are responsible for reading and complying with all information contained in this document.

Notification: DFCM will notify each registered pre-qualified firm (via fax or e-mail) when a project is ready for Construction Services and invite them to bid on the project.

Description of Work: A description of work or plans/specifications will be given to each contractor. If required, the plans and specifications will be available on the DFCM web page at <http://dfcm.utah.gov> and on CDs from DFCM, at 4110 State Office Building, Salt Lake City, Utah 84114.

Schedule: The Stage II Schedule shows critical dates including the mandatory pre-bid site meeting (if required), the question and answer period, the bid submittal deadline, the subcontractor list submittal deadline, etc. Contractors are responsible for meeting all deadlines shown on the schedule.

Mandatory Pre-Bid Site Meeting: If a firm fails to attend a pre-bid site meeting labeled “Mandatory” they will not be allowed to bid on the project. At the mandatory meeting, contractors may have an opportunity to inspect the site, receive additional instructions and ask questions about project. The schedule contains information on the date, time, and place of the mandatory pre-bid site meeting.

Written Questions: All questions must be in writing and directed to DFCM’s project manager assigned to this project. No others are to be contacted regarding this project. The schedule contains information on the deadline for submitting questions.

Addendum: All clarifications from DFCM will be in writing and issued as an addendum to the RFS. Addenda will be posted on DFCM’s web site at <http://dfcm.utah.gov>. Contractors are responsible for obtaining information contained in each addendum from the web site. Addenda issued prior to the submittal deadline shall become part of the bidding process and must be acknowledged on the bid form. Failure to acknowledge addenda may result in disqualification from bidding.

Submitting Bids: Bids must be submitted to DFCM 4110 State Office Building, Salt Lake City, Utah 84114 by the deadline indicated on the schedule. Bids submitted after the deadline will not be accepted. Bids will be opened at DFCM on the date, time, and place indicated on the schedule.

Subcontractors List: The firm selected for the project must submit a list of all subcontractors by the deadline indicated on the schedule contained in this document.

Pre-qualified List of Contractors: Contractors shall remain on DFCM’s list of pre-qualified contractors provided: (a) they maintain a performance rating of 3.5 or greater on each project, (b) they are not suspended for failure to comply with requirements of their contract, (c) the firm has not undergone a significant reorganization involving the loss of key personnel (site superintendents, project managers, owners, etc.) to a degree such that the firm no longer meets the pre-qualification requirements outlined in Stage I, (d) the financial viability of the firm has not significantly changed, and (e) the firm is not otherwise disqualified by DFCM. Note: If a contractor fails to comply with items (a) through (e) above,

they may be removed from DFCM's list of pre-qualified contractors following an evaluation by a review committee. Contractors will be given the opportunity to address the review committee before a decision is made. Pre-qualified contractors are ONLY authorized to bid on projects within the discipline that they were originally pre-qualified under.

**2. Drawings and Specifications and Interpretations**

Drawings, specifications and other contract documents may be obtained as stated in the Invitation to Bid. If any firm is in doubt as to the meaning or interpretation of any part of the drawings, specifications, scope of work or contract documents, they shall submit, in writing, a request for interpretation to the authorized DFCM representative by the deadline identified in the schedule. Answers to questions and interpretations will be made via addenda issued by DFCM. Neither DFCM or the designer shall be responsible for incorrect information obtained by contractors from sources other than the official drawings/specifications and addenda issued by DFCM.

**3. Product Approvals**

Where reference is made to one or more proprietary products in the contract documents, but restrictive descriptive materials of one or more manufacturer(s) is referred to in the contract documents, the products of other manufacturers will be accepted, provided they equal or exceed the standards set forth in the drawings and specifications and are compatible with the intent and purpose of the design, subject to the written approval of the Designer. Such written approval must occur prior to the deadline established for the last scheduled addendum to be issued. The Designer's written approval will be included as part of the addendum issued by DFCM. If the descriptive material is not restrictive, the products of other manufacturers specified will be accepted without prior approval provided they are compatible with the intent and purpose of the design as determined by the Designer.

**4. Addenda**

All clarifications from DFCM will be in writing and issued as an addendum to the RFS. Addenda will be posted on DFCM's web site at <http://dfcm.utah.gov>. Contractors are responsible for obtaining information contained in each addendum from the web site. Addenda issued prior to the submittal deadline shall become part of the bidding process and must be acknowledged on the bid form. Failure to acknowledge addenda shall result in disqualification from bidding. DFCM shall not be responsible for incorrect information obtained by contractors from sources other than official addenda issued by DFCM.

**5. Financial Responsibility of Contractors, Subcontractors and Sub-subcontractors**

Contractors shall respond promptly to any inquiry in writing by DFCM to any concern of financial responsibility of the Contractor, Subcontractor or Sub-subcontractor. Failure to respond may result in suspension from DFCM's list of pre-qualified contractors.

**6. Licensure**

The Contractor shall comply with and require all of its Subcontractors to comply with the license laws as required by the State of Utah.

**7. Permits**

In concurrence with the requirements for permitting in the general conditions, it is the responsibility of the contractor to obtain the fugitive dust plan requirements from the Utah Division of Air Quality and the SWPPP requirements from the Utah Department of Environmental Quality and submit the completed forms and pay any permit fee that may be required for this specific project. Failure to obtain the required permit may result in work stoppage and/or fines from the regulating authority that will be the sole responsibility of the contractor. Any delay to the project as a result of any such failure to obtain the permit or noncompliance with the permit shall not be eligible for any extension in the Contract Time.

**8. Time is of the Essence**

Time is of the essence in regard to all the requirements of the contract documents.

**9. Bids**

Before submitting a bid, each bidder shall carefully examine the contract documents; shall visit the site of the work; shall fully inform themselves as to all existing conditions and limitations; and shall include in the bid the cost of all items required by the contract documents including those added via addenda. If the bidder observes that portions of the contract documents are at variance with applicable laws, building codes, rules, regulations or contain obvious erroneous or uncoordinated information, the bidder shall promptly notify the DFCM Project Manager prior to the bidding deadline. Changes necessary to correct these issues will be made via addenda issued by DFCM.

The bid, bearing original signatures, must be typed or handwritten in ink on the Bid Form provided in the procurement documents and submitted in a sealed envelope at the location specified by the Invitation to Bid prior to the published deadline for the submission of bids.

Bid bond security, in the amount of five percent (5%) of the bid, made payable to the Division of Facilities Construction and Management, shall accompany bid. **THE BID BOND MUST BE ON THE BID BOND FORM PROVIDED IN THE PROCUREMENT DOCUMENTS IN ORDER TO BE CONSIDERED AN ACCEPTABLE BID.**

If the bid bond security is submitted on a form other than DFCM's required bid bond form, and the bid security meets all other legal requirements, the bidder will be allowed to provide an acceptable bid bond by the close of business on the next business day following notification by DFCM of submission of a defective bid bond security. **A cashier's check cannot be used as a substitute for a bid bond.**

**10. Listing of Subcontractors**

Listing of Subcontractors shall be as summarized in the "Instructions and Subcontractor's List Form", included as part of the contract documents. The subcontractors list shall be delivered to DFCM or faxed to DFCM at (801) 538-3677 within 24 hours of the bid opening. Requirements for listing additional subcontractors will be listed in the contract documents.

DFCM retains the right to audit or take other steps necessary to confirm compliance with requirements for the listing and changing of subcontractors. Any contractor who is found to not be in compliance with these requirements may be suspended from DFCM's list of pre-qualified contractors.

**11. Contract and Bond**

The Contractor's Agreement will be in the form provided in this document. The duration of the contract shall be for the time indicated by the project completion deadline shown on the schedule. The successful bidder, simultaneously with the execution of the Contractor's Agreement, will be required to furnish a performance bond and a payment bond, both bearing original signatures, upon the forms provided in the procurement documents.

The performance and payment bonds shall be for an amount equal to one hundred percent (100%) of the Contract Sum and secured from a company that meets the requirements specified in the requisite forms. Any bonding requirements for Subcontractors will be specified in the Supplementary General Conditions.

**12. Award of Contract**

The Contract will be awarded as soon as possible to the lowest, responsive and responsible bidder, based on the lowest combination of base bid and acceptable prioritized alternates, provided the bid is reasonable, is in the interests of DFCM to accept and after applying the Utah Preference Laws in U.C.A. Title 63, Chapter 56. DFCM reserves the right to waive any technicalities or formalities in any bid or in the bidding. Alternates will be accepted on a prioritized basis with Alternate 1 being highest priority, Alternate 2 having second priority, etc. Alternates will be selected in prioritized order up to the construction cost estimate.

**13. Right to Reject Bids**

DFCM reserves the right to reject any or all Bids.

**14. Withdrawal of Bids**

Bids may be withdrawn on written request received from bidders within 24 hours after the bid opening if the contractor has made an error in preparing the bid.

**15. DFCM Contractor Performance Rating**

As a contractor completes each project, DFCM will evaluate project performance based on the enclosed "DFCM Contractor Performance Rating" form. The ratings issued on this project may affect the firm's "pre-qualified" status and their ability to obtain future work with DFCM.



## Stage II PROJECT SCHEDULE

<b>PROJECT NAME: GENEVA BUILDING RE-ROOF – UTAH VALLEY UNIVERSITY – OREM, UTAH DFCM PROJECT #:09079790</b>				
<b>Event</b>	<b>Day</b>	<b>Date</b>	<b>Time</b>	<b>Place</b>
Stage II Bidding Documents Available	Thursday	June 25, 2009	3:00 PM	DFCM 4110 State Office Building SLC, UT and the DFCM web site*
Mandatory Pre-bid Site Meeting	Tuesday	June 30, 2009	8:30 AM	1410 W. Business Park Drive Orem, Utah
Deadline for Submitting Questions	Wednesday	July 1, 2009	2:00 PM	Matt Boyer– DFCM E-mail:mboyer@utah.gov Fax (801)-538-3267
Addendum Deadline (exception for bid delays)	Thursday	June 2, 2009	2:00 PM	DFCM web site*
Prime Contractors Turn in Bid and Bid Bond	Monday	July 6, 2009	3:00 PM	DFCM 4110 State Office Building SLC, UT
Subcontractors List Due	Tuesday	July 7, 2009	3:00 PM	DFCM 4110 State Office Building SLC, UT Fax 801-538-3677
Substantial Completion Date	Thursday	October 2, 2009	4:00 PM	

\* NOTE: DFCM's web site address is <http://dfcm.utah.gov>



**Division of Facilities Construction and Management**

**DFCM**

**BID FORM**

NAME OF BIDDER \_\_\_\_\_ DATE \_\_\_\_\_

To the Division of Facilities Construction and Management  
4110 State Office Building  
Salt Lake City, Utah 84114

The undersigned, responsive to the "Invitation to Bid" and in accordance with the Request for Bids for the **Geneva Building Re-roof – Utah Valley University – Orem, Utah - DFCM Project No. 09079790** and having examined the Contract Documents and the site of the proposed Work and being familiar with all of the conditions surrounding the construction of the proposed Project, including the availability of labor, hereby proposes to furnish all labor, materials and supplies as required for the Work in accordance with the Contract Documents as specified and within the time set forth and at the price stated below. This price is to cover all expenses incurred in performing the Work required under the Contract Documents of which this bid is a part:

I/We acknowledge receipt of the following Addenda: \_\_\_\_\_

For all work shown on the Drawings and described in the Specifications and Contract Documents, I/we agree to perform for the sum of:

**BASE BID:**  
\_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_ )  
(In case of discrepancy, written amount shall govern)

**ADDITIVE ALTERNATE NO.1** – Install additional insulation as noted per plans.  
\_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_ )  
(In case of discrepancy, written amount shall govern)

**(Please note the different amount of insulation between the two alternates)**

**ADDITIVE ALTERNATE NO. 2** – Install additional insulation as noted per plans  
\_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_ )  
(In case of discrepancy, written amount shall govern)

I/We guarantee that the Work will be Substantially Complete by October 2, 2009, should I/we be the successful bidder, and agree to pay liquidated damages in the amount of **\$500.00** per day for each day after expiration of the Contract Time as stated in Article 3 of the Contractor’s Agreement.

This bid shall be good for 45 days after bid opening.

Enclosed is a 5% bid bond, as required, in the sum of \_\_\_\_\_

The undersigned Contractor's License Number for Utah is \_\_\_\_\_.

Upon receipt of notice of award of this bid, the undersigned agrees to execute the contract within ten (10) days, unless a shorter time is specified in Contract Documents, and deliver acceptable Performance and Payment bonds in the prescribed form in the amount of 100% of the Contract Sum for faithful performance of the contract. The Bid Bond attached, in the amount not less than five percent (5%) of the above bid sum, shall become the property of the Division of Facilities Construction and Management as liquidated damages for delay and additional expense caused thereby in the event that the contract is not executed and/or acceptable 100% Performance and Payment bonds are not delivered within time set forth.

Type of Organization: \_\_\_\_\_  
(Corporation, Partnership, Individual, etc.)

Any request and information related to Utah Preference Laws:  
\_\_\_\_\_

Respectfully submitted,

\_\_\_\_\_  
Name of Bidder

ADDRESS:  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Authorized Signature

**BID BOND**

(Title 63, Chapter 56, U. C. A. 1953, as Amended)

**KNOW ALL PERSONS BY THESE PRESENTS:**

That \_\_\_\_\_ hereinafter referred to as the "Principal," and \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_, with its principal office in the City of \_\_\_\_\_ and authorized to transact business in this State and U. S. Department of the Treasury Listed, (Circular 570, Companies Holding Certificates of Authority as Acceptable Securities on Federal Bonds and as Acceptable Reinsuring Companies); hereinafter referred to as the "Surety," are held and firmly bound unto the STATE OF UTAH, hereinafter referred to as the "Obligee," in the amount of \$ \_\_\_\_\_ (5% of the accompanying bid), being the sum of this Bond to which payment the Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

**THE CONDITION OF THIS OBLIGATION IS SUCH** that whereas the Principal has submitted to Obligee the accompanying bid incorporated by reference herein, dated as shown, to enter into a contract in writing for the \_\_\_\_\_ Project.

**NOW, THEREFORE, THE CONDITION OF THE ABOVE OBLIGATION IS SUCH**, that if the said principal does not execute a contract and give bond to be approved by the Obligee for the faithful performance thereof within ten (10) days after being notified in writing of such contract to the principal, then the sum of the amount stated above will be forfeited to the State of Utah as liquidated damages and not as a penalty; if the said principal shall execute a contract and give bond to be approved by the Obligee for the faithful performance thereof within ten (10) days after being notified in writing of such contract to the Principal, then this obligation shall be null and void. It is expressly understood and agreed that the liability of the Surety for any and all defaults of the Principal hereunder shall be the full penal sum of this Bond. The Surety, for value received, hereby stipulates and agrees that obligations of the Surety under this Bond shall be for a term of sixty (60) days from actual date of the bid opening.

**PROVIDED, HOWEVER**, that this Bond is executed pursuant to provisions of Title 63, Chapter 56, Utah Code Annotated, 1953, as amended, and all liabilities on this Bond shall be determined in accordance with said provisions to same extent as if it were copied at length herein.

**IN WITNESS WHEREOF**, the above bounden parties have executed this instrument under their several seals on the date indicated below, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

**DATED** this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

**Principal's name and address (if other than a corporation):**

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

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

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

**Principal's name and address (if a corporation):**

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

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

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

(Affix Corporate Seal)

**Surety's name and address:**

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

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

Attorney-in-Fact (Affix Corporate Seal)

STATE OF \_\_\_\_\_ )  
 ) ss.  
COUNTY OF \_\_\_\_\_ )

On this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, personally appeared before me \_\_\_\_\_, whose identity is personally known to me or proved to me on the basis of satisfactory evidence, and who, being by me duly sworn, did say that he/she is the Attorney-in-fact of the above-named Surety Company, and that he/she is duly authorized to execute the same and has complied in all respects with the laws of Utah in reference to becoming sole surety upon bonds, undertakings and obligations, and that he/she acknowledged to me that as Attorney-in-fact executed the same.

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.  
My Commission Expires: \_\_\_\_\_  
Resides at: \_\_\_\_\_

NOTARY PUBLIC

**Agency:** \_\_\_\_\_  
**Agent:** \_\_\_\_\_  
**Address:** \_\_\_\_\_  
**Phone:** \_\_\_\_\_

Approved As To Form: May 25, 2005  
By Alan S. Bachman, Asst Attorney General

**Division of Facilities Construction and Management****INSTRUCTION AND SUBCONTRACTORS LIST FORM**

The three low bidders, as well as all other bidders that desire to be considered, are required by law to submit to DFCM within 24 hours of bid opening a list of **ALL** first-tier subcontractors, including the subcontractor's name, bid amount and other information required by Building Board Rule and as stated in these Contract Documents, based on the following:

**DOLLAR AMOUNTS FOR LISTING**

**PROJECTS UNDER \$500,000: ALL FIRST-TIER SUBS \$20,000 OR OVER MUST BE LISTED**  
**PROJECTS \$500,000 OR MORE: ALL FIRST-TIER SUBS \$35,000 OR OVER MUST BE LISTED**

- Any additional subcontractors identified in the bid documents shall also be listed.
- The DFCM Director may not consider any bid submitted by a bidder if the bidder fails to submit a subcontractor list meeting the requirements of State law.
- List subcontractors for base bid as well as the impact on the list that the selection of any alternate may have.
- Bidder may not list more than one subcontractor to perform the same work.
- If there are no subcontractors for the job that are required to be reported by State law (either because there are no subcontractors that will be used on the project or because there are no first-tier subcontractors over the dollar amounts referred to above), then you do not need to submit a sublist. If you do not submit a sublist, it will be deemed to be a representation by you that there are no subcontractors on the job that are required to be reported under State law. At any time, DFCM reserves the right to inquire, for security purposes, as to the identification of the subcontractors at any tier that will be on the worksite.

**LICENSURE:**

The subcontractor's name, the type of work, the subcontractor's bid amount, and the subcontractor's license number as issued by DOPL, if such license is required under Utah Law, shall be listed. Bidder shall certify that all subcontractors, required to be licensed, are licensed as required by State law. A subcontractor includes a trade contractor or specialty contractor and does not include suppliers who provide only materials, equipment, or supplies to a contractor or subcontractor.

**'SPECIAL EXCEPTION':**

A bidder may list 'Special Exception' in place of a subcontractor when the bidder intends to obtain a subcontractor to perform the work at a later date because the bidder was unable to obtain a qualified or reasonable bid under the provisions of U.C.A. Section 63A-5-208(4). The bidder shall insert the term 'Special Exception' for that category of work, and shall provide documentation with the subcontractor list describing the bidder's efforts to obtain a bid of a qualified subcontractor at a reasonable cost and why the bidder was unable to obtain a qualified subcontractor bid. The Director must find that the bidder complied in good faith with State law requirements for any 'Special Exception' designation, in order for the bid to be considered. If awarded the contract, the Director shall supervise the bidder's efforts to obtain a qualified subcontractor bid. The amount of the awarded contract may not be adjusted to reflect the actual amount of the subcontractor's bid. Any listing of 'Special Exception' on the sublist form shall also include amount allocated for that work.

**GROUNDS FOR DISQUALIFICATION:**

The Director may not consider any bid submitted by a bidder if the bidder fails to submit a subcontractor list meeting the requirements of State law. Director may withhold awarding the contract to a particular bidder if one or more of the proposed subcontractors are considered by the Director to be unqualified to do the Work or for such

**INSTRUCTIONS AND SUBCONTRACTORS LIST FORM**  
**Page No. 2**

other reason in the best interest of the State of Utah. Notwithstanding any other provision in these instructions, if there is a good faith error on the sublist form, at the sole discretion of the Director, the Director may provide notice to the contractor and the contractor shall have 24 hours to submit the correction to the Director. If such correction is submitted timely, then the sublist requirements shall be considered met.

**CHANGES OF SUBCONTRACTORS SPECIFICALLY IDENTIFIED ON SUBLIST FORM:**

Subsequent to twenty-four hours after the bid opening, the contractor may change its listed subcontractors only after receiving written permission from the Director based on complying with all of the following criteria.

- (1) The contractor has established in writing that the change is in the best interest of the State and that the contractor establishes an appropriate reason for the change, which may include, but not is not limited to, the following reasons: the original subcontractor has failed to perform, or is not qualified or capable of performing, and/or the subcontractor has requested in writing to be released.
- (2) The circumstances related to the request for the change do not indicate any bad faith in the original listing of the subcontractors.
- (3) Any requirement set forth by the Director to ensure that the process used to select a new subcontractor does not give rise to bid shopping.
- (4) Any increase in the cost of the subject subcontractor work is borne by the contractor.
- (5) Any decrease in the cost of the subject subcontractor work shall result in a deductive change order being issued for the contract for such decreased amount.
- (6) The Director will give substantial weight to whether the subcontractor has consented in writing to being removed unless the Contractor establishes that the subcontractor is not qualified for the work.

**EXAMPLE:**

Example of a list where there are only four subcontractors:

<b>TYPE OF WORK</b>	<b>SUBCONTRACTOR, "SELF" OR "SPECIAL EXCEPTION"</b>	<b>SUBCONTRACTOR BID AMOUNT</b>	<b>CONTRACTOR LICENSE #</b>
ELECTRICAL	ABCD Electric Inc.	\$350,000.00	123456789000
LANDSCAPING	"Self" *	\$300,000.00	123456789000
CONCRETE (ALTERNATE #1)	XYZ Concrete Inc	\$298,000.00	987654321000
MECHANICAL	"Special Exception" (attach documentation)	Fixed at: \$350,000.00	(TO BE PROVIDED AFTER OBTAINING SUBCONTRACTOR)

\* Bidders may list "self", but it is not required.

**PURSUANT TO STATE LAW - SUBCONTRACTOR BID AMOUNTS CONTAINED IN THIS SUBCONTRACTOR LIST SHALL NOT BE DISCLOSED UNTIL THE CONTRACT HAS BEEN AWARDED.**



SUBCONTRACTORS LIST
FAX TO 801-538-3677

PROJECT TITLE: \_\_\_\_\_

Caution: You must read and comply fully with instructions.

Table with 4 columns: TYPE OF WORK, SUBCONTRACTOR, "SELF" OR "SPECIAL EXCEPTION", SUBCONTRACTOR BID AMOUNT, CONT. LICENSE #

We certify that:

- 1. This list includes all subcontractors as required by the instructions, including those related to the base bid as well as any alternates.
2. We have listed "Self" or "Special Exception" in accordance with the instructions.
3. All subcontractors are appropriately licensed as required by State law.

FIRM: \_\_\_\_\_

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

SIGNED BY: \_\_\_\_\_

NOTICE: FAILURE TO SUBMIT THIS FORM, PROPERLY COMPLETED AND SIGNED, AS REQUIRED IN THESE CONTRACT DOCUMENTS, SHALL BE GROUNDS FOR OWNER'S REFUSAL TO ENTER INTO A WRITTEN CONTRACT WITH BIDDER. ACTION MAY BE TAKEN AGAINST BIDDERS BID BOND AS DEEMED APPROPRIATE BY OWNER. ATTACH A SECOND PAGE IF NECESSARY.

## CONTRACTOR'S AGREEMENT

FOR:

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

THIS CONTRACTOR'S AGREEMENT, made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, by and between the DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT, hereinafter referred to as "DFCM", and \_\_\_\_\_, incorporated in the State of \_\_\_\_\_ and authorized to do business in the State of Utah, hereinafter referred to as "Contractor", whose address is \_\_\_\_\_.

WITNESSETH: WHEREAS, DFCM intends to have Work performed at \_\_\_\_\_  
\_\_\_\_\_.

WHEREAS, Contractor agrees to perform the Work for the sum stated herein.

NOW, THEREFORE, DFCM and Contractor for the consideration provided in this Contractor's Agreement, agree as follows:

**ARTICLE 1. SCOPE OF WORK.** The Work to be performed shall be in accordance with the Contract Documents prepared by \_\_\_\_\_ and entitled "\_\_\_\_\_"

The DFCM General Conditions ("General Conditions") dated May 25, 2005 and Supplemental General Conditions dated July 15, 2008 ("also referred to as General Conditions") and on file at the office of DFCM and available on the DFCM website, are hereby incorporated by reference as part of this Agreement and are included in the specifications for this Project. All terms used in this Contractor's Agreement shall be as defined in the Contract Documents, and in particular, the General Conditions.

The Contractor Agrees to furnish labor, materials and equipment to complete the Work as required in the Contract Documents which are hereby incorporated by reference. It is understood and agreed by the parties hereto that all Work shall be performed as required in the Contract Documents and shall be subject to inspection and approval of DFCM or its authorized representative. The relationship of the Contractor to the DFCM hereunder is that of an independent Contractor.

**ARTICLE 2. CONTRACT SUM.** The DFCM agrees to pay and the Contractor agrees to accept in full performance of this Contractor's Agreement, the sum of \_\_\_\_\_ DOLLARS AND NO CENTS (\$\_\_\_\_\_.00), which is the base bid, and which sum also includes the cost of a 100%

CONTRACTOR'S AGREEMENT  
PAGE NO. 2

Performance Bond and a 100% Payment Bond as well as all insurance requirements of the Contractor. Said bonds have already been posted by the Contractor pursuant to State law. The required proof of insurance certificates have been delivered to DFCM in accordance with the General Conditions before the execution of this Contractor's Agreement.

**ARTICLE 3. TIME OF COMPLETION AND DELAY REMEDY.** The Work shall be Substantially Complete by \_\_\_\_\_. Contractor agrees to pay liquidated damages in the amount of \$\_\_\_\_\_ per day for each day after expiration of the Contract Time until the Contractor achieves Substantial Completion in accordance with the Contract Documents, if Contractor's delay makes the damages applicable. The provision for liquidated damages is: (a) to compensate the DFCM for delay only; (b) is provided for herein because actual damages can not be readily ascertained at the time of execution of this Contractor's Agreement; (c) is not a penalty; and (d) shall not prevent the DFCM from maintaining Claims for other non-delay damages, such as costs to complete or remedy defective Work.

No action shall be maintained by the Contractor, including its or Subcontractor or suppliers at any tier, against the DFCM or State of Utah for damages or other claims due to losses attributable to hindrances or delays from any cause whatsoever, including acts and omissions of the DFCM or its officers, employees or agents, except as expressly provided in the General Conditions. The Contractor may receive a written extension of time, signed by the DFCM, in which to complete the Work under this Contractor's Agreement in accordance with the General Conditions.

**ARTICLE 4. CONTRACT DOCUMENTS.** The Contract Documents consist of this Contractor's Agreement, the Conditions of the Contract (DFCM General Conditions, Supplementary and other Conditions), the Drawings, Specifications, Addenda and Modifications. The Contract Documents shall also include the bidding documents, including the Notice to Contractors, Instructions to Bidders/Proposers and the Bid/Proposal, to the extent not in conflict therewith and other documents and oral presentations that are documented as an attachment to the contract.

All such documents are hereby incorporated by reference herein. Any reference in this Contractor's Agreement to certain provisions of the Contract Documents shall in no way be construed as to lessen the importance or applicability of any other provisions of the Contract Documents.

**ARTICLE 5. PAYMENT.** The DFCM agrees to pay the Contractor from time to time as the Work progresses, but not more than once each month after the date of Notice to Proceed, and only upon Certificate of the A/E for Work performed during the preceding calendar month, ninety-five percent (95%) of the value of the labor performed and ninety-five percent (95%) of the value of materials furnished in place or on the site. The Contractor agrees to furnish to the DFCM invoices for materials purchased and on the site but not installed, for which the Contractor requests payment and agrees to safeguard and protect such equipment or materials and is responsible for safekeeping thereof and if such be stolen, lost or destroyed, to replace same.

Such evidence of labor performed and materials furnished as the DFCM may reasonably require shall be supplied by the Contractor at the time of request for Certificate of Payment on account. Materials for which payment has been made cannot be removed from the job site without DFCM's written approval. Five percent (5%) of the earned amount shall be retained from each monthly payment. The retainage, including any additional retainage imposed and the release of any retainage, shall be in accordance with UCA 13-8-5 as amended. Contractor shall also comply with the requirements of UCA 13-8-5, including restrictions of retainage regarding subcontractors and the distribution of interest earned on the retention proceeds. The DFCM shall not be responsible for enforcing the Contractor's obligations under State law in fulfilling the retention law requirements with subcontractors at any tier.

**ARTICLE 6. INDEBTEDNESS.** Before final payment is made, the Contractor must submit evidence satisfactory to the DFCM that all payrolls, materials bills, subcontracts at any tier and outstanding indebtedness in connection with the Work have been properly paid. Final Payment will be made after receipt of said evidence, final acceptance of the Work by the DFCM as well as compliance with the applicable provisions of the General Conditions.

Contractor shall respond immediately to any inquiry in writing by DFCM as to any concern of financial responsibility and DFCM reserves the right to request any waivers, releases or bonds from Contractor in regard to any rights of Subcontractors (including suppliers) at any tier or any third parties prior to any payment by DFCM to Contractor.

**ARTICLE 7. ADDITIONAL WORK.** It is understood and agreed by the parties hereto that no money will be paid to the Contractor for additional labor or materials furnished unless a new contract in writing or a Modification hereof in accordance with the General Conditions and the Contract Documents for such additional labor or materials has been executed. The DFCM specifically reserves the right to modify or amend this Contractor's Agreement and the total sum due hereunder either by enlarging or restricting the scope of the Work.

**ARTICLE 8. INSPECTIONS.** The Work shall be inspected for acceptance in accordance with the General Conditions.

**ARTICLE 9. DISPUTES.** Any dispute, PRE or Claim between the parties shall be subject to the provisions of Article 7 of the General Conditions. DFCM reserves all rights to pursue its rights and remedies as provided in the General Conditions.

**ARTICLE 10. TERMINATION, SUSPENSION OR ABANDONMENT.** This Contractor's Agreement may be terminated, suspended or abandoned in accordance with the General Conditions.

**ARTICLE 11. DFCM'S RIGHT TO WITHHOLD CERTAIN AMOUNT AND MAKE USE THEREOF.** The DFCM may withhold from payment to the Contractor such amount as, in DFCM's judgment, may be necessary to pay just claims against the Contractor or Subcontractor at any tier for labor and services rendered and materials furnished in and about the Work. The DFCM may apply such withheld amounts for the payment of such claims in DFCM's discretion. In so doing, the DFCM shall be deemed the agent of Contractor and payment so made by the DFCM shall be considered as payment made under this Contractor's Agreement by the DFCM to the Contractor. DFCM shall not be liable to the Contractor for any such payment made in good faith. Such withholdings and payments may be made without prior approval of the Contractor and may be also be prior to any determination as a result of any dispute, PRE, Claim or litigation.

**ARTICLE 12. INDEMNIFICATION.** The Contractor shall comply with the indemnification provisions of the General Conditions.

**ARTICLE 13. SUCCESSORS AND ASSIGNMENT OF CONTRACT.** The DFCM and Contractor, respectively bind themselves, their partners, successors, assigns and legal representatives to the other party to this Agreement, and to partners, successors, assigns and legal representatives of such other party with respect to all covenants, provisions, rights and responsibilities of this Contractor's Agreement. The Contractor shall not assign this Contractor's Agreement without the prior written consent of the DFCM, nor shall the Contractor assign any moneys due or to become due as well as any rights under this Contractor's Agreement, without prior written consent of the DFCM.

**ARTICLE 14. RELATIONSHIP OF THE PARTIES.** The Contractor accepts the relationship of trust and confidence established by this Contractor's Agreement and covenants with the DFCM to cooperate with the DFCM and A/E and use the Contractor's best skill, efforts and judgment in furthering the interest of the DFCM; to furnish efficient business administration and supervision; to make best efforts to furnish at all times an adequate supply of workers and materials; and to perform the Work in the best and most expeditious and economic manner consistent with the interests of the DFCM.

**ARTICLE 15. AUTHORITY TO EXECUTE AND PERFORM AGREEMENT.** Contractor and DFCM each represent that the execution of this Contractor's Agreement and the performance thereunder is within their respective duly authorized powers.

**ARTICLE 16. ATTORNEY FEES AND COSTS.** Except as otherwise provided in the dispute resolution provisions of the General Conditions, the prevailing party shall be entitled to reasonable attorney fees and costs incurred in any action in the District Court and/or appellate body to enforce this Contractor's Agreement or recover damages or any other action as a result of a breach thereof.



**PERFORMANCE BOND**  
(Title 63, Chapter 56, U. C. A. 1953, as Amended)

That \_\_\_\_\_ hereinafter referred to as the "Principal" and \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_, with its principal office in the City of \_\_\_\_\_ and authorized to transact business in this State and U. S. Department of the Treasury Listed (Circular 570, Companies Holding Certificates of Authority as Acceptable Securities on Federal Bonds and as Acceptable Reinsuring Companies); hereinafter referred to as the "Surety," are held and firmly bound unto the State of Utah, hereinafter referred to as the "Obligee," in the amount of \_\_\_\_\_ DOLLARS (\$) for the payment whereof, the said Principal and Surety bind themselves and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

**WHEREAS**, the Principal has entered into a certain written Contract with the Obligee, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, to construct \_\_\_\_\_ in the County of \_\_\_\_\_, State of Utah, Project No. \_\_\_\_\_, for the approximate sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), which Contract is hereby incorporated by reference herein.

**NOW, THEREFORE**, the condition of this obligation is such that if the said Principal shall faithfully perform the Contract in accordance with the Contract Documents including, but not limited to, the Plans, Specifications and conditions thereof, the one year performance warranty, and the terms of the Contract as said Contract may be subject to Modifications or changes, then this obligation shall be void; otherwise it shall remain in full force and effect.

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

The parties agree that the dispute provisions provided in the Contract Documents apply and shall constitute the sole dispute procedures of the parties.

**PROVIDED, HOWEVER**, that this Bond is executed pursuant to the Provisions of Title 63, Chapter 56, Utah Code Annotated, 1953, as amended, and all liabilities on this Bond shall be determined in accordance with said provisions to the same extent as if it were copied at length herein.

**IN WITNESS WHEREOF**, the said Principal and Surety have signed and sealed this instrument this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

**WITNESS OR ATTESTATION:**

**PRINCIPAL:**

\_\_\_\_\_

\_\_\_\_\_

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

(Seal)

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

**WITNESS OR ATTESTATION:**

**SURETY:**

\_\_\_\_\_

\_\_\_\_\_

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

Attorney-in-Fact (Seal)

STATE OF \_\_\_\_\_ )  
 ) ss.  
COUNTY OF \_\_\_\_\_ )

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, personally appeared before me \_\_\_\_\_, whose identity is personally known to me or proved to me on the basis of satisfactory evidence, and who, being by me duly sworn, did say that he/she is the Attorney in-fact of the above-named Surety Company and that he/she is duly authorized to execute the same and has complied in all respects with the laws of Utah in reference to becoming sole surety upon bonds, undertakings and obligations, and that he/she acknowledged to me that as Attorney-in-fact executed the same.

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

My commission expires: \_\_\_\_\_

Resides at: \_\_\_\_\_

\_\_\_\_\_  
NOTARY PUBLIC

<b>Agency:</b> _____
<b>Agent:</b> _____
<b>Address:</b> _____
<b>Phone:</b> _____

Approved As To Form: May 25, 2005  
By Alan S. Bachman, Asst Attorney General

**PAYMENT BOND**

(Title 63, Chapter 56, U. C. A. 1953, as Amended)

**KNOW ALL PERSONS BY THESE PRESENTS:**

That \_\_\_\_\_ hereinafter referred to as the "Principal," and \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_ authorized to do business in this State and U. S. Department of the Treasury Listed (Circular 570, Companies Holding Certificates of Authority as Acceptable Securities on Federal Bonds and as Acceptable Reinsuring Companies); with its principal office in the City of \_\_\_\_\_, hereinafter referred to as the "Surety," are held and firmly bound unto the State of Utah hereinafter referred to as the "Obligee," in the amount of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) for the payment whereof, the said Principal and Surety bind themselves and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

**WHEREAS**, the Principal has entered into a certain written Contract with the Obligee, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, to construct \_\_\_\_\_ in the County of \_\_\_\_\_, State of Utah, Project No. \_\_\_\_\_ for the approximate sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), which contract is hereby incorporated by reference herein.

**NOW, THEREFORE**, the condition of this obligation is such that if the said Principal shall pay all claimants supplying labor or materials to Principal or Principal's Subcontractors in compliance with the provisions of Title 63, Chapter 56, of Utah Code Annotated, 1953, as amended, and in the prosecution of the Work provided for in said Contract, then, this obligation shall be void; otherwise it shall remain in full force and effect.

That said Surety to this Bond, for value received, hereby stipulates and agrees that no changes, extensions of time, alterations or additions to the terms of the Contract or to the Work to be performed thereunder, or the specifications or drawings accompanying same shall in any way affect its obligation on this Bond, and does hereby waive notice of any such changes, extensions of time, alterations or additions to the terms of the Contract or to the Work or to the specifications or drawings and agrees that they shall become part of the Contract Documents.

**PROVIDED, HOWEVER**, that this Bond is executed pursuant to the provisions of Title 63, Chapter 56, Utah Code Annotated, 1953, as amended, and all liabilities on this Bond shall be determined in accordance with said provisions to the same extent as if it were copied at length herein.

**IN WITNESS WHEREOF**, the said Principal and Surety have signed and sealed this instrument this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

**WITNESS OR ATTESTATION:**

\_\_\_\_\_

**PRINCIPAL:**

\_\_\_\_\_

By: \_\_\_\_\_ (Seal)  
Title: \_\_\_\_\_

**WITNESS OR ATTESTATION:**

\_\_\_\_\_

**SURETY:**

\_\_\_\_\_

By: \_\_\_\_\_ (Seal)  
Attorney-in-Fact

STATE OF \_\_\_\_\_ )  
 ) ss.  
COUNTY OF \_\_\_\_\_ )

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, personally appeared before me \_\_\_\_\_, whose identity is personally known to me or proved to me on the basis of satisfactory evidence, and who, being by me duly sworn, did say that he/she is the Attorney-in-fact of the above-named Surety Company, and that he/she is duly authorized to execute the same and has complied in all respects with the laws of Utah in reference to becoming sole surety upon bonds, undertakings and obligations, and that he/she acknowledged to me that as Attorney-in-fact executed the same.

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

My commission expires: \_\_\_\_\_

Resides at: \_\_\_\_\_

\_\_\_\_\_  
NOTARY PUBLIC

**Agency:** \_\_\_\_\_  
**Agent:** \_\_\_\_\_  
**Address:** \_\_\_\_\_  
**Phone:** \_\_\_\_\_

Approved As To Form: May 25, 2005  
By Alan S. Bachman, Asst Attorney General



Division of Facilities Construction and Management

DFCM

CERTIFICATE OF SUBSTANTIAL COMPLETION

PROJECT \_\_\_\_\_ PROJECT NO: \_\_\_\_\_

AGENCY/INSTITUTION \_\_\_\_\_

AREA ACCEPTED \_\_\_\_\_

The Work performed under the subject Contract has been reviewed on this date and found to be Substantially Completed as defined in the General Conditions; including that the construction is sufficiently completed in accordance with the Contract Documents, as modified by any change orders agreed to by the parties, so that the State of Utah can occupy the Project or specified area of the Project for the use for which it is intended.

The DFCM - (Owner) accepts the Project or specified area of the Project as Substantially Complete and will assume full possession of the Project or specified area of the Project at \_\_\_\_\_ (time) on \_\_\_\_\_ (date).

The DFCM accepts the Project for occupancy and agrees to assume full responsibility for maintenance and operation, including utilities and insurance, of the Project subject to the itemized responsibilities and/or exceptions noted below:

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

The Owner acknowledges receipt of the following closeout and transition materials:

- Record Drawings
- O & M Manuals
- Warranty Documents
- Completion of Training Requirements

A list of items to be completed or corrected (Punch List) is attached hereto. The failure to include an item on it does not alter the responsibility of the Contractor to complete all the Work in accordance with the Contract Documents, including authorized changes thereof. The amount of \_\_\_\_\_. (Twice the value of the punch list work) shall be retained to assure the completion of the punch list work.

The Contractor shall complete or correct the Work on the list of (Punch List) items appended hereto within \_\_\_\_\_ calendar days from the above date of issuance of this Certificate. If the list of items is not completed within the time allotted the Owner has the right to be compensated for the delays and/or complete the work with the help of independent contractor at the expense of the retained project funds. If the retained project funds are insufficient to cover the delay/completion damages, the Owner shall be promptly reimbursed for the balance of the funds needed to compensate the Owner.

\_\_\_\_\_  
CONTRACTOR (include name of firm) by: \_\_\_\_\_  
(Signature) DATE

\_\_\_\_\_  
A/E (include name of firm) by: \_\_\_\_\_  
(Signature) DATE

\_\_\_\_\_  
USING INSTITUTION OR AGENCY by: \_\_\_\_\_  
(Signature) DATE

\_\_\_\_\_  
DFCM (Owner) by: \_\_\_\_\_  
(Signature) DATE

4110 State Office Building, Salt Lake City, Utah 84114  
telephone 801-538-3018 • facsimile 801-538-3267 • <http://dfcm.utah.gov>

cc: Parties Noted  
DFCM, Director

**General Contractor Performance Rating Form**

Project Name:		DFCM Project#	
Contractor:  (ABC Construction, John Doe, 111-111-1111)	A/E:  (ABC Architects, Jane Doe, 222-222-2222)	Original Contract Amount:	Final Contract Amount:
DFCM Project Manager:		Contract Date:	
Completion Date:		Date of Rating:	

Rating Guideline	QUALITY OF PRODUCT OR SERVICES	COST CONTROL	TIMELINESS OF PERFORMANCE	BUSINESS RELATIONS
<b>5-Exceptional</b>	Contractor has demonstrated an exceptional performance level in any of the above four categories that justifies adding a point to the score. Contractor performance clearly exceeds the performance levels described as "Very Good"			
<b>4-Very Good</b>	Contractor is in compliance with contract requirements and/or delivers quality product/service.	Contractor is effective in managing costs and submits current, accurate, and complete billings	Contractor is effective in meeting milestones and delivery schedule	Response to inquiries, technical/service/administrative issues is effective
<b>3-Satisfactory</b>	Minor inefficiencies/errors have been identified	Contractor is usually effective in managing cost	Contractor is usually effective in meeting milestones and delivery schedules	Response to inquires technical/service/administrative issues is somewhat effective
<b>2-Marginal</b>	Major problems have been encountered	Contractor is having major difficulty managing cost effectively	Contractor is having major difficulty meeting milestones and delivery schedule	Response to inquiries, technical/service/administrative issues is marginally effective
<b>1-Unsatisfactory</b>	Contractor is not in compliance and is jeopardizing achievement of contract objectives	Contractor is unable to manage costs effectively	Contractor delays are jeopardizing performance of contract objectives	Response to inquiries, technical/service/administrative issues is not effective

<b>1. Rate Contractors quality of workmanship, management of sub contractor performance, project cleanliness, organization and safety requirement.</b>	<b>Score</b>
<u>Agency Comments:</u>	
<u>A &amp; E Comments:</u>	
<u>DFCM Project Manager Comments:</u>	

<b>2. Rate Contractor administration of project costs, change orders and financial management of the project budget.</b>	<b>Score</b>
<u>Agency Comments:</u>	
<u>A &amp; E Comments:</u>	
<u>DFCM Project Manager Comments:</u>	

<b>3. Rate Contractor's performance and adherence to Project Schedule, delay procedures and requirements of substantial completion, inspection and punch-list performance.</b>	<b>Score</b>
<u>Agency Comments:</u>	
<u>A &amp; E Comments:</u>	
<u>DFCM Project Manager Comments:</u>	

<b>4. Evaluate performance of contractor management team including project manager, engineer and superintendent also include in the rating team's ability to work well with owner, user agency and consultants.</b>	<b>Score</b>
<u>Agency Comments:</u>	
<u>A &amp; E Comments:</u>	
<u>DFCM Project Manager Comments:</u>	

5. Rate success of Contractor's management plan, completion of the plans mitigation of project risks and performance of value engineering concepts.	Score
---	-------

Agency Comments:

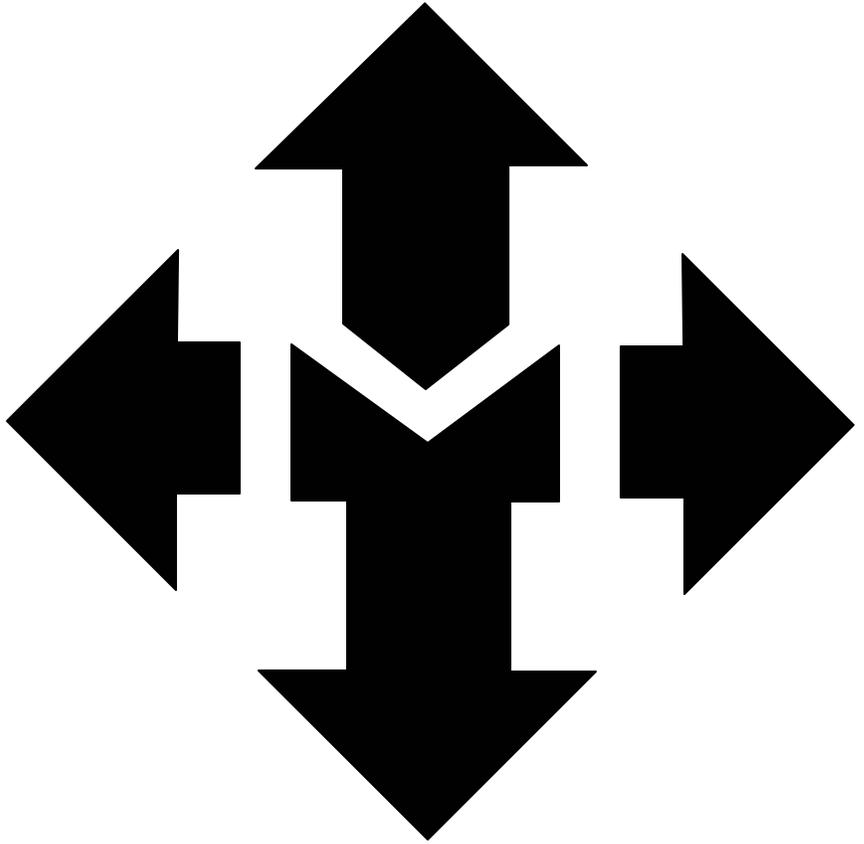
A & E Comments:

DFCM Project Manager Comments:

<b>Signed by:</b>	<b>Date:</b>	<b>Mean Score</b>
-------------------	--------------	-------------------

**Additional Comments:**

[Large shaded area for additional comments]



**Project Manual**

for

**Geneva Building**  
1410 West Business Park Drive  
Orem, Utah

for

**Utah Valley University**

**June 2009**

**McNeil Group**  
6895 South 900 East  
Midvale, Utah 84047

**(801) 255-7700**  
**info@mcneileng.com**  
**www.mcneileng.com**

**DIVISION 06: WOOD, PLASTICS, AND COMPOSITES**

**06 0000 WOOD, PLASTICS, AND COMPOSITES**

06 0573 PRESERVATIVE WOOD TREATMENT

**06 1000 ROUGH CARPENTRY**

06 1011 WOOD FASTENINGS

06 1100 WOOD FRAMING

END OF TABLE OF CONTENTS

**SECTION 06 0573****PRESERVATIVE WOOD TREATMENT****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Quality of wood preservative treatment where specified.
- B. Related Requirements:
  - 1. Section 06 1100:
    - a. Characteristics of wood to be pressure-treated.
    - b. Furnishing and installing of pressure-treated wood.

**1.2 REFERENCES**

- A. Reference Standards:
  - 1. American Wood-Preserver's Association:
    - a. AWPA C1-96, 'All Timber Products, Pressure Treatment.'
    - b. AWPA C2-96, 'Lumber, Timbers, Bridge Ties and Mine Ties, Pressure Treatment.'
    - c. AWPA C31-xx, 'Lumber Used Out of Contact with the Ground and Continuously Protected from Liquid Water.'
    - d. AWPA C33-xx, 'Standard for Preservative Treatment of Structural Composite Lumber by Pressure Processes.'
    - e. AWPA P5-xx, 'Waterborne Preservatives.'
    - f. AWPA N1-96, 'All Millwork, Preservative Treatment by Non-Pressure Process.'

**1.3 SUBMITTALS**

- A. Informational Submittals:
  - 1. Certificate: Certificate of pressure treatment showing compliance with specification requirements and including information required under IBC Section 2303.1.8.1.

**PART 2 - PRODUCTS****2.1 SYSTEMS**

- A. Manufacturers:
  - 1. Type One Acceptable Manufacturers:
    - a. Arch Wood Protection Inc, Smyrna, GA [www.wolmanizedwood.com](http://www.wolmanizedwood.com).
    - b. Hoover Treated Wood Products, Thomson, GA [www.frtw.com](http://www.frtw.com).
    - c. Osmose Inc, Griffin, GA [www.osmose.com](http://www.osmose.com).
    - d. U S Borax Inc, Valencia, CA [www.borax.com/wood](http://www.borax.com/wood).
    - e. VIANCE, Charlotte, NC [www.treatedwood.com](http://www.treatedwood.com).
    - f. Equal as approved by Architect before bidding. See Section 01 6200.
- B. Performance:
  - 1. Framing lumber grade and species shall be as specified in Section 06 1100 for particular use.
  - 2. Interior Wood In Contact With Concrete or Masonry:
    - a. Preservatives:

- 1) Disodium octoborate tetrahydrate (DOT / SBX) meeting requirements of AWPA C31 and with retention of 0.25 lbs per cu ft 4 kg per cu meter.
- 2) Zinc borate meeting requirements of AWPA C33 and with retention of 0.17 lbs per cu ft 2.7 kg per cu meter.
- b. Lumber: Treat in accordance with AWPA C31 or C33 and dry after treatment.
- c. Millwork: Treat in accordance with AWPA N1 and dry after treatment.
3. Exterior Wood Continuously Exposed To Weather:
  - a. Preservatives: Waterborne preservatives meeting requirements of AWPA C2 with retention levels as required by AWPA C2 for specific application.
  - b. Lumber: Treat in accordance with AWPA C2 and dry after treatment.

**PART 3 - EXECUTION: Not Used**

**END OF SECTION**

**SECTION 06 1011****WOOD FASTENINGS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
1. Quality of wood fastening methods and materials used for Rough Carpentry unless specified otherwise.
- B. Related Requirements:
1. Furnishing and installing of other fasteners are specified in individual Sections where installed.

**1.2 REFERENCES**

- A. Reference Standards;
1. ASTM International:
    - a. ASTM F 1667-03, 'Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.'

**1.3 SUBMITTALS**

- A. Action Submittals:
1. Product Data:
    - a. Manufacturer's literature on framing anchors and powder actuated fasteners.
  2. Shop Drawings:
    - a. Submit diameter and lengths of fasteners proposed for use on Project. If length or diameter of proposed fasteners differ from specified fasteners, also include technical and engineering data for proposed fasteners including, but not limited to:
      - 1) Adjusted fastener spacing where using proposed fasteners and,
      - 2) Adjusted number of fasteners necessary to provide connection capacity equivalent to specified fasteners.
    - b. Submit on powder-actuated fasteners other than those specified in Contract Documents showing design criteria equivalents at each application.
    - c. Show type, quantity, and installation location of framing anchors. Where necessary, reference Drawing details, etc, for installation locations.

**PART 2 - PRODUCTS****2.1 MANUFACTURED UNITS**

- A. Description:
1. Nail Terminology:
    - a. When following nail terms are used in relation to this Project, following lengths and diameters will be understood. Refer to nails of other dimensions by actual length and diameter, not by one of listed terms:

Nail Term	Length	Diameter	Length	Diameter
8d Box	2-1/2 inches	0.113 inch	63.5 mm	2.827 mm
8d Common	2-1/2 inches	0.131 inch	63.5 mm	3.389 mm
10d Box	3 inches	0.128 inch	76.2 mm	3.251 mm
10d Common	3 inches	0.148 inch	76.2 mm	3.759 mm
16d Box	3-1/2 inches	0.135 inch	88.9 mm	3.411 mm

16d Sinker	3-1/4 inches	0.148 inch	82.6 mm	3.759 mm
16d Common	3-1/2 inches	0.162 inch	88.9 mm	4.115 mm

B. Materials:

1. Fasteners:
  - a. Fasteners in contact with preservative treated wood shall be hot-dipped galvanized or G-185 coated.
  - b. Nails:
    - 1) Meet requirements of ASTM F 1667.
    - 2) Unless noted otherwise, nails listed on Drawings or in Specifications shall be common nail diameter, except 16d nails, which shall be box diameter.
  - c. Wood Screws:
    - 1) SDS Screws:
      - a) Category Four Approved Products. See Section 01 6200 for definitions of categories.
        - (1) SDS Screws by Simpson Strong Tie Co, Dublin, CA [www.strongtie.com](http://www.strongtie.com).
      - 2) All Other: Standard type and make for job requirements.
  - d. Powder-Actuated Fasteners:
    - 1) Type One Quality Standard: Hilti X-DNI 62P8.
    - 2) Manufacturers:
      - a) Hilti, Tulsa, OK [www.us.hilti.com](http://www.us.hilti.com).
      - b) Redhead Division of ITW, Wood Dale, IL [www.itw-redhead.com](http://www.itw-redhead.com) and Markham, ON [www.itwconstruction.ca](http://www.itwconstruction.ca).
      - c) Equals as approved by Architect through shop drawing submittal before installation. See Section 01 6200.
2. Adhesives:
  - a. Construction Mastics: Meet requirements of American Plywood Association Specification AFG-01 September 1974. Use phenol-resorcinol type for use on pressure treated wood products.
3. Framing Anchors:
  - a. Framing anchors and associated fasteners in contact with preservative treated wood shall be hot-dipped galvanized, G-185 coated, or stainless steel. However, do not use stainless steel items with galvanized items.
  - b. Type Two Acceptable Products:
    - 1) KC Metals Inc, San Jose, CA [www.kcmetals.com](http://www.kcmetals.com).
    - 2) Simpson Strong Tie Co, Dublin, CA [www.strongtie.com](http://www.strongtie.com).
    - 3) United Steel Products Co Inc (USP), Montgomery, MN [www.uspconnectors.com](http://www.uspconnectors.com).
    - 4) Equals as approved by Architect through shop drawing submittal before installation. See Section 01 6200.

## PART 3 - EXECUTION

### 3.1 ERECTION

- A. Secure one Manufacturer approved fastener in each hole of framing anchor that bears on framing member unless approved otherwise in writing by Architect.
- B. Provide washers with bolt heads and with nuts bearing on wood.

**END OF SECTION**

**SECTION 06 1100****WOOD FRAMING****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Furnish and install wood framing and blocking as described in Contract Documents.
- B. Related Requirements:
  - 1. Section 06 0573: Quality of Preservative Wood Treatment.

**1.2 REFERENCES**

- A. Reference Standards:
  - 1. U. S. Department of Commerce:
    - a. Voluntary Product Standard DOC PS 20-99, 'American Softwood Lumber Standard.'

**1.3 ADMINISTRATIVE REQUIREMENTS**

- A. Pre-Installation Conference:
  - 1. Schedule pre-installation conference immediately before beginning framing work.
  - 2. Review items such as:
    - a. Rough opening requirements
    - b. Nails and nailing requirements.
    - c. Connections.

**1.4 SUBMITTALS**

- A. Informational Submittals:
  - 1. Test And Evaluation Reports: Technical and engineering data on nails to be set by nailing guns for Architect's approval of types proposed to be used as equivalents to specified hand set nails and adjusted number and spacing of pneumatically-driven nails to provide equivalent connection capacity.

**1.5 DELIVERY, STORAGE, AND HANDLING**

- A. Delivery And Acceptance Requirements:
  - 1. Protect lumber and plywood and keep under cover in transit and at job site.
  - 2. Do not deliver material unduly long before it is required.
- B. Storage And Handling Requirements:
  - 1. Store lumber and plywood on level racks and keep free of ground to avoid warping. Stack to insure proper ventilation and drainage.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Dimension Lumber:
1. Meet requirements of PS 20 and National Grading Rules for softwood dimension lumber.
  2. Bear grade stamp of WWPA, SPIB, or other association recognized by American Lumber Standards Committee identifying species of lumber by grade mark or by Certificate of Inspection.
  3. Lumber 2 inches 50 mm or less in nominal thickness shall not exceed 19 percent in moisture content at time of fabrication and installation and be stamped 'S-DRY', 'K-D', or 'MC15.'
  4. Lumber shall be S4S.
  5. Preservative Treated Plates / Sills:
    - a. 2x4 38 mm by 64 mm: Standard and better Douglas Fir, Southern Pine, or HemFir, or StrandGuard by iLevel by Weyerhaeuser Boise, ID [www.ilevel.com](http://www.ilevel.com).
    - b. 2x6 38 mm by 140 mm And Wider: No. 2 or or MSR 1650f - 1.5e Douglas Fir, Southern Pine, HemFir, or StrandGuard by iLevel by Weyerhaeuser, Boise, ID [www.ilevel.com](http://www.ilevel.com).
- B. Lumber Ledgers: No. 1 Douglas Fir, Larch, or Southern Pine.
- C. Blocking: Sound lumber without splits, warps, wane, loose knots, or knots larger than 1/2 inch 13 mm.
- D. Furring Strips: Utility or better.
- E. Sill Sealer: Closed-cell polyethylene foam, 1/4 inch 6 mm thick by width of plate.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. General: Use preservative treated wood for wood members in contact with concrete or masonry, including wall, sill, and ledger plates, door and window subframes and bucks, etc.
- B. Interface With Other Work:
1. Coordinate with other Sections for location of blocking required for installation of equipment and building specialties.
  2. Where manufactured items are to be installed in framing, provide rough openings of dimensions within tolerances required by manufacturers of such items. Confirm dimensions where not shown on Drawings.
- C. Tolerances:
1. Walls:
    - a. 1/4 inch 6 mm in 20 feet 6 meters, non-cumulative in length of wall.
    - b. 1/8 inch 3 mm in 10 feet 3 meters with 1/4 inch 6 mm maximum in height of wall.
    - c. Distances between parallel walls shall be 1/4 inch 6 mm maximum along length and height of wall.
  2. Nailing:
    - a. Stud to plate:
 

2 by 4 inch nominal	38 by 89 mm	End nail, two 16d OR toe nail, four 8d
2 by 6 inch nominal	38 by 140 mm	End nail, three 16d OR toe nail, four 8d
2 by 8 inch nominal	38 by 184 mm	End nail, four 16d OR toe nail, six 8d
2 by 10 inch nominal	38 by 235 mm	End nail, five 16d OR toe nail, six 8d
1-3/4 by 5-1/2 inch LVL	44 by 140 mm LVL	End nail, three 16d OR toe nail, four 8d
1-3/4 by 7-1/4 inch LVL	44 by 184 mm LVL	End nail, four 16d OR toe nail, six 8d
1-3/4 by 9-1/4 inch LVL	44 by 235 mm LVL	End nail, five 16d OR toe nail, six 8d
1-3/4 by 11-1/4 inch LVL	44 by 286 mm LVL	End nail, six 16d OR toe nail eight 8d
    - b. Top plates: Spiked together, 16d, 16 inches 400 mm on center.

- c. Top plates: Laps, lap members 48 inches 1200 mm minimum and nail with 16d nails 4 inches 100 mm on center
  - d. Top plates: Intersections, three 16d.
  - e. Backing And Blocking: Three 8d, each end.
  - f. Corner studs and angles: 16d, 16 inches 400 mm on center.
- D. Roof And Ceiling Framing:
1. Place with crown side up at 16 inches 400 mm on center unless noted otherwise.
  2. Install structural blocking and bridging as necessary and as described in Contract Documents.
  3. Special Requirements:
    - a. Roof And Ceiling Joists: Lap joists 4 inches 100 mm minimum and secure with code approved framing anchors.
    - b. Roof Rafters And Outlookers:
      - 1) Cut level at wall plate and provide at least 2-1/2 inches 64 mm bearing where applicable. Spike securely to plate with three 10d nails.
      - 2) Attach to trusses or other end supports with framing anchors described in Contract Documents.
      - 3) Provide for bracing at bearing partitions.
- E. Accessory / Equipment Mounting (nailers):
1. Furnish and install blocking in wood framing required for hardware, specialties, equipment, accessories, and mechanical and electrical items, etc.
  2. Furnish and install back blocking in wood framing required for joints in gypsum wallboard.
    - a. Install back blocking between I-joist framing members with equivalent of Simpson Z2 clips attached with four 10d x 1-1/2 inch nails at each end, two into 'I' joist and two into blocking.
    - b. Attach back blocking at trusses, stick framing, or walls with two 10d nails in each end of each piece of blocking.
- F. Accessory / Equipment Mounting And Standing & Running Trim Blocking (nailers):
1. Furnish and install blocking in wood framing required for hardware, specialties, equipment, accessories, and mechanical and electrical items, etc.
  2. Attach blocking not installed with clips with two fasteners in each end of each piece of blocking.
- G. Furring Strips
1. On Wood or Steel: Nail or screw as required to secure firmly.
  2. On Concrete or Masonry:
    - a. Back up furring strips on exterior walls or walls in contact with earth with 15 lb felt strip.
    - b. Nail at 12 inches 300 mm on center maximum.

**END OF SECTION**

**DIVISION 07: THERMAL AND MOISTURE PROTECTION**

**07 5000 MEMBRANE ROOFING**

07 5400 TPO SINGLE-PLY MEMBRANE ROOFING

**07 6000 FLASHING AND SHEET METAL**

07 6210 GALVANIZED STEEL FLASHING AND TRIM  
07 6322 STEEL FASCIA

**07 9000 JOINT PROTECTION**

07 9213 ELASTOMERIC JOINT SEALANTS

END OF TABLE OF CONTENTS

**SECTION 07 5400****TPO SINGLE-PLY MEMBRANE ROOFING****PART 1 – GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This Section includes the following:
  - 1. Division 6 Section "Rough Carpentry" for wood nailers, curbs, and blocking; and wood-based structural-use roof deck panels.
  - 2. Division 7 Section "Sheet Metal Flashing and Trim" for metal roof penetration flashings, flashings, and counter flashings.
  - 3. Division 7 Section "Joint Sealants."

**1.3 DEFINITIONS**

- A. Roofing Terminology; Refer to ASTM D 1079 for definition of terms related to roofing work not otherwise defined in this Section.

**1.4 PERFORMANCE REQUIREMENTS**

- A. General: Install sheet membrane roofing and base flashing that are watertight; will not permit the passage of liquid water; and will withstand wind loads, thermally induced movement, and exposure to weather without failure.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing system manufacturer based on testing and field experience.
- C. Roofing Membrane: TPO roofing membrane must be pre-approved by the D.F.C.M. and Architect prior to bid for approval.
- D. FM Listing: Provide sheet membrane, base flashings, and component materials that meet requirements of FM 4450 and FM 4470 as part of a roofing system and that are listed in FM's "Approval Guide" for Class 1 or noncombustible construction, as applicable, Identify materials with FM markings.
  - 1. Roofing system shall comply with the following:
    - a. Fire/Windstorm Classification: Class 1A-90.
- E. Roofing System Design: Provide a single-ply roofing system that complies with roofing system manufacturer's written design instructions and with the following:
  - 1. SPRI's "Wind Design Guide for Adhered Roofing systems."
    - a. Exposure Category: Exposure A, B, C or D as required by manufacture for this location and building height.
    - b. System Design: System 1.
    - c. Flame spread index f not more than 75
    - d. Smoke development index of not more than 450
- F. Roofing System Design: Provide a roofing system that complies with roofing system manufacturer's written design instructions and with the following:
  - 1. SPRI's "Wind Design Guide for Adhered Roofing Systems."

- a. Exposure Category: Exposure A, B, C or D as required by manufacture for this location and building height.
- b. System Design: System 1.

## 1.5 SUBMITTALS

- A. Product data: For each type of roofing product specified. Include data substantiating that materials comply with requirements.
- B. Shop Drawings: Include plans, sections, and details of the following:
  1. Base flashings, counter flashings, expansion joint covers and membrane terminations.
  2. Tapered insulation, including slopes.
- C. Samples for Verification: Of the following products:
  1. 12-by-12-inch square of sheet roofing, of color specified, including T-shaped side and end lap seam.
  2. 12-by-12-inch square of roof insulation.
- D. Installer Certificates: Signed by roofing manufacturer certifying that Installer is approved, authorized or licensed by manufacturer to install specified roofing system.
- E. Manufacturer Certificates: Signed by roofing manufacturer certifying that the roofing system complies with requirements specified in the "Performance Requirements" Article. Upon request, submit evidence of meeting requirements.
- F. Qualification Data: For firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- G. Product Test Reports: Based on evaluation of tests performed by manufacturer and witnessed by a qualified independent testing agency, indicated compliance of components of roofing system with requirements based on comprehensive testing of current product compositions.
- H. Research/Evaluation Reports: Evidence of roofing system's compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
- I. Maintenance Data: For roofing system to include in the maintenance manuals specified in Division 1.
- J. Inspection Report: Copy of roofing system manufacturer's inspection report of completed roofing installation as required by D.F.C.M.

## 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced installer to perform work of this Section who has specialized in installing roofing similar to that required for this Project and who is approved, authorized or licensed by the roofing system manufacturer to install manufacturer's product.
- B. Fire-Test-Response Characteristics: Provide roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method indicated below by UL, FM, or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
  1. Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and slopes indicated.
  2. Fire-Resistance Ratings: ASTM E 119, for fire-resistance-rated roof assemblies of which roofing materials are a part.
- C. Preinstallation Conference: Before installing roofing system conduct conference at Project site to comply with requirements of Division 1 Section "Project Meetings." Notify participants at least 5 working days before conference.

1. Meet with Owner; Architect; Owner's insurer, if applicable; testing and inspecting agency representative; roofing Installer; roofing system manufacturer's representative; and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
4. Review loading limitations of deck during and after roofing.
5. Review flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing.
6. Review governing regulations and requirements for insurance, certificates, and inspection and testing if applicable.
7. Review temporary protection requirements for roofing system during and after installation.
8. Review roof observation and repair procedures after roofing installation.

### **1.7 DELIVER, 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 storing and mixing with other components.
- 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 instruction 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.
- E. At the job site, no materials should be stored than will be used within two weeks. For periods longer than two weeks, the materials should be properly warehoused, i.e., dry, ventilated on pallets, etc. No more material should be stored on the roof than can be used within five days. When prolonged inclement weather threatens, i.e., rainy seasons, no more roofing materials should be supplied to the rooftop than can be used within two days.
- F. Store materials in dry, protected areas in an upright position on pallets clear of the ground and moisture. Protect materials from freezing.
- G. Materials shall be stored above 55°F (12.6°C) a minimum of 24 hours prior to application.
- H. Protect any adjacent building surfaces against damage from the installation of the roofing system.
- I. The contractor shall observe all safety precautions as recommended by Single Ply Roofing Industry (SPRI) and the National Roofing Contractors Association (NRCA).

### **1.8 PROJECT CONDITIONS AND WEATHER RESTRICTIONS**

- A. Weather Limitations: Proceed with roofing work only when existing and forecasted weather conditions permit roofing to be installed according to manufacturers' written instructions and warranty requirements.
- B. Do not install membrane or roofing system during periods of low ambient temperature below 30°F (-1.1°C).

- C. Material installation during periods of high ambient temperatures greater than 90°F (32°C) requires special consideration to prevent condensation on the membrane surface and work with excessively fast adhesive drying times.
- D. Do not install when moisture is present on the deck or the substrate to which applying.
- E. Verify that the surfaces and site conditions are ready to receive work.
- F. Verify that the deck is supported and secured.
- G. Verify that the deck is cleaned and smooth, free of depressions, waves or projections, and properly sloped to drains, valleys, eaves, scuppers or gutters.
- H. Verify that the deck surfaces are dry and free of ice or snow.
- I. Verify that all roof openings curbs, pipes, sleeves, ducts, vents or other penetrations through the roof are solidly set, and that all flashings, tapered edges and cant strips, reglets, and wood nailers are secure and tight to the building as per this specification.
- J. The beginning of installation of the roof system signifies the contractor accept the existing conditions as being in compliance with the requirements of this specification.

## 1.9 WARRANTY

- A. General Warranty: The warranties specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
  - 1. Warranty requirements:
    - a. Minimum general contractor's workmanship 5 year warranty period as per DFCM contractors warranty at the end of this section.
    - b. Minimum 20 year manufacturers roofing system warranty as per DFCM warranty at the end of this section.
    - c. See D.F.C.M. warranty at the end of specification.

## PART 2 – PRODUCTS

### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements provide products by one of the following:
  - 1. TPO Sheet:
    - a. As per approved D.F.C.M. T.P.O. membrane providers
  - 2. Thermal Barrier:
    - a. Product: Subject to compliance with requirements, provide "Dens-deck" and "Denz Deck Prime", manufactured by Georgia-Pacific Corp.

### 2.2 TPO SHEET

- A. TPO-Thermoplastic Single Ply Roofing Membrane – A smooth type, polyester scrim-reinforced thermoplastic polyolefin based membrane for use as a single ply roofing membrane, complying with the following:
  - Thickness 0.060" (60 mils) nominal
  - Weight 6.1 oz/sq. ft.
  - Breaking Strength 318 lbs. X 288 lbs.

- Resistance to xenon-arc weathering (ASTM G 155) must be tested and pass a minimum of 17,640 kJ/m<sup>2</sup> or 14,000 hours at an irradiance of 0.35 W/m<sup>2</sup>.
- Steam Strength >95% (membrane failure)
- Elongation at Break 24% x 20%
- Heat Aging (ASTM D 573) must be tested and pass 28 days @ 240 degrees Fahrenheit with less than 1% dimensional change.
- Tear Strength 80 lbs. X 100 lbs.
- Puncture Resistance 371 lbs.
- Low Temperature Flexibility Use the Dynamic impact test (ASTM D 2137) And must pass at no more than 35 degrees Fahrenheit below zero.
- Permeance 0.010 Perms
- Dimensional Change 0.3%
- Water Absorption 1.5%
- Fleece Backed
- Polyolefin Reactor grade or molecular bonded
- Hydrostatic Resistance 450 psi
- Color White
- Ozone Resistance No visible deterioration @ 7x magnification
- Accelerated Weathering No visible deterioration @ 7 x magnification

### 2.3 AUXILIARY MATERIALS

- A. General: Furnish auxiliary materials recommended by roofing system manufacturer for intended use and compatible with TPO membrane roofing.
1. Furnish liquid-type auxiliary materials that meet VOC limits of authorities having jurisdiction.
- B. Bonding Adhesive: Manufacturer's standard fully adhered bonding adhesive.
- C. Lap Sealant: Manufacturer's standard single-component sealant..
- D. Miscellaneous Accessories: Provide pourable sealers, preformed core and vent sheet flashings, preformed inside and outside corner sheet flashings, t-joint covers, in-seam sealants, termination reglets, and other accessories recommended by roofing system manufacturer for intended use.
- E. Membrane Flashing Material: A smooth type, polyester scrim-reinforced thermoplastic polyolefin based membrane for use as a single ply roofing membrane and flashing material: 0.060 inches (60 mils) nominal thickness.
- F. Masonry Anchors: Zinc alloy drive anchor for securing termination bar to masonry/concrete substrates. Stainless steel drive pin with 0.250" diameter. Pre-drilling 1/4" hole required. Lengths 1-1/4" and 1-1/2".
- G. TPO Preformed Vent Boots: One standard size accommodates most common pipe and conduits, (1" to 6" diameter pipes), including square tube, made of 0.075" thick molded TPO membrane, heat welds directly to roofing membrane, supplied with stainless steel clamping rings.
- H. TPO Preformed Corners Universal style accommodates both inside and outside corners of base and cub flashing, made of 0.065" thick molded TPO membrane, heat welds directly to roofing membrane. Size 4" x 4" with 4" flange.
- I. TPO Cut Edge Sealant: Solvent based liquid in squeeze bottle application method. Use required along field cut edges of TSR membranes.

- J. Caulking: One-part polyurethane sealant suitable for sealing upper lip of exposed termination bars and around upper edge of penetration clamping rings, meets or exceeds ASTM C-920-87, Type S, Grade NS, Class 25.
- K. Water Block Mastic: One part butyl based high viscosity sealant suitable for sealing between flashing membrane and substrate surface behind exposed termination bars and for sealing between roofing membrane and drain flange.
- L. 2-Part Pourable Sealant: 100% solids epoxy based two-par sealant suitable for filing sealant pans at irregularly-shaped penetrations. Epoxy is part A. Polyamide is part B.
- M. Lip Termination Bar: Extruded aluminum termination bar with angled lip caulk receiver and lower let bulb stiffener. Pre-punched slotted holes at 6" on center or 8" on center  $\frac{3}{4}$ " x 10' with 0.090" cross section
- N. Edge strips as required.
- O. Sheet Flashing: Manufacturer's standard sheet flashing of same material, type, thickness, and color as sheet membrane.
- P. Bonding Adhesive: Manufacturer's standard bonding adhesive.
- Q. Slip sheet: Manufacturer's recommended slip sheet of type required for application.
- R. Metal Battens: Manufacturer's standard aluminum-zinc-alloy-coated or zinc-coated steel sheet, approximately 1 inch (25mm) wide by 0.05 inch (1.3 mm) thick prepunched.
- S. Fasteners; Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions of FM 4470, designed for fastening sheet to substrate, and acceptable to roofing system manufacturer.
- T. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, seam calk, termination reglets, and other accessories recommend by roofing system manufacturer for intended use.

## 2.4 INSULATION MATERIALS

- A. Thermal Barrier: (Tapered Insulation for slope)
  - 1. Thickness: Minimum 1" with a slope of not less than  $\frac{1}{4}$ " per foot slope.  
Product: Must be approved by membrane manufacturer.

## 2.5 INSULATION ACCESSORIES

- A. General: Furnish roof insulation accessories recommended by insulation manufacturer for intended use and compatible with sheet roofing material.
- B. Fasteners: Factory-coated steel fasteners and metal plates meeting corrosion-resistance provisions of FM 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.
- C. Securement System: L-shaped securement flashing and other required insulation strapping fabricated from stainless steel, a minimum of 0.031 inch thick. Provide fasteners as recommended by insulation manufacturer.

## PART 3 – EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions under which roofing will be applied, with Installer present, for compliance with requirements.
- B. Verify that roof openings and penetrations are in place and set and braced and that roof drains are properly clamped into position.
- C. Verify that wood nailers are in place and secured and match thickness of insulation required.
- D. Do not proceed with installation until unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Clean substrate of dust, debris, and other substances detrimental to roofing installation according to roofing system manufacturer's written instruction. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of the roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.
- D. Existing sheet metal roof edge and other flashing items shall be removed and disposed of as directed in the contract requirements. Comply with methods and procedures as described in the latest edition of the "Architectural Sheet Metal Manual", as distributed by the Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA).
- E. All rooftop equipment shall be carefully removed, stored as directed, and reinstalled after completion of the work. Nailers and curbs shall be removed and replaced with new treated lumber if necessary. All penetrations and expansion joints shall extend a minimum of 8" (20 cm) above the top of the finished roof surface. Openings shall be covered temporarily with plywood and roof membrane while equipment is stored elsewhere. Air intake and exhaust openings shall not be sealed but shall be hooded to permit flow of air. Ducts and equipment on legs shall be reinstalled so that there is sufficient clearance for future roof maintenance. Existing drains shall be completely cleaned and replaced. Broken or missing screens shall be replaced.

### 3.3 WALKWAYS

- A. Walkway Pads:
  - 1. Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads, approximately 3/16 inch (5 mm) thick, of materials acceptable to roofing system manufacturer.

### 3.4 MECHANICALLY FASTENED SHEET INSTALLATION

- A. Install TPO sheet over area to receive roofing according to roofing system manufacturer's written instructions. Unroll sheet and allow to relax for a minimum of 30 minutes.
  - 1. Install sheet according to ASTM D 5082.
- B. Start installation of sheet in presence of roofing system manufacturer's technical personnel.
- C. Accurately align sheets and maintain uniform side and end laps of minimum dimensions required by manufacturer: Stagger end laps.
- D. Adhesively fasten sheet securely at terminations and perimeter of roofing.
- E. Apply roofing sheet with side laps shingled with slope of roof deck where possible.
- F. Spread sealant bed over deck drain flange at deck drains and securely seal roofing sheet in place with clamping ring.

- G. In-Seam Attachment: Secure one edge of the sheet using fastening plates or battens centered within the membrane seam and mechanically fasten sheet to roof deck. Field-weld seam according to "Seam Installation" Article.
1. Install sheet and auxiliary materials to tie in to the existing roofing.

### 3.5 SEAM AND MEMBRANE INSTALLATION

- A. Place membrane so that wrinkles and buckles are not formed. Any wrinkles or buckles must be removed from the sheet prior to permanent attachment. Roof membrane shall be fully adhered immediately after it is rolled out, followed by welding to adjacent sheets.
- B. Overlap roof membrane a minimum of 3" (15 cm) for side laps and 3" (15cm) for end laps.
- C. Install membrane so that the side laps run across the roof slope lapped towards drainage points.
- D. All exposed sheet corners shall be rounded a minimum of 1".
- E. Use full width rolls in the field and perimeter region of roof.
- F. Use appropriate bonding adhesive for substrate surface, applied with a solvent-resistant roller, brush or squeegee.
- G. Fully adhere membrane sheets with bonding adhesive at the rate of 120 square feet/gallon per surface solvent-based bonding adhesives, and at the rate of 250 square feet/gallon per surface for water-borne bonding adhesive. Apply bonding adhesive to both the underside of the membrane and the substrate surface. A greater quantity of bonding adhesive may be required based upon the substrate surface condition.
- H. Prevent seam contamination by keeping the adhesive application a few inches back from the seam areas.
- I. Adhere approximately one half of the membrane sheet at a time. One half of the sheet's length shall be folded back in turn to allow for adhesive application. Lay membrane into adhesive once the bonding adhesive is tacky to the touch.
- J. Roll membrane with a water-filled lawn roller to ensure complete bonding between adhesive and membrane.
- K. 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.
- L. Weld width shall be a minimum of 2" in width for automatic machine welding. Weld width shall be a minimum 2" in width for hand welding.
- M. All cut edges of reinforced membrane must be sealed with sealant.
- N. Supplemental membrane attachment is required at the base of all walls and curbs, and at locations of deck angle changes in excess of five (5) angle degrees (1" in 12").
- O. Clean and prime both faces of splice areas, apply splice tape and firmly roll side and end laps of overlapping sheets according to manufacturer's written instructions to ensure a watertight seam installation. Apply lap sealant and seal exposed sedges of sheet terminations.
- P. Repair tears, voids, and lapped seams in roofing that does not meet requirements.

### 3.6 ADHERED SHEET INSTALLATION

- A. Install TPO sheet over area to receive roofing according to roofing system manufacturer's written instructions. Unroll sheet and allow to relax for a minimum of 30 minutes

1. Install sheet according to ASTM D 5036.
- B. Start installation of sheet in presence of roofing system manufacturer's technical personnel.
- C. Accurately align sheets and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- D. Apply bonding adhesive to substrate and underside of sheet at rate required by manufacturer and allow to partially dry. Do not apply bonding adhesive to seam area of sheet.
- E. Mechanically fasten sheet securely at terminations and perimeter of roofing.
- F. Apply roofing sheet with side laps shingled with slope of roof deck where possible.
- G. Spread sealant bed over deck drain flange at deck drains and securely seal roofing sheet in place with clamp ring.
- H. Install adhered TPO sheet auxiliary materials to tie in to existing roofing.

### 3.7 FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of flashing sheet at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing as recommended by manufacturer.
- D. Clean splice areas, apply splicing cement, and firmly roll side and end laps of overlapping sheets according to manufacturer's written instructions to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet flashing terminations.
- E. Terminate and seal top of sheet flashings.
- F. Flash all perimeter: curb, and penetration conditions with coated metal, membrane flashing, and flashing accessories as appropriate to the site condition.
- G. All membrane flashing corners shall be reinforced with preformed corners or non-reinforced membrane.
- H. Heat-weld
- I. Roof Drains:
  1. Roof drains must be fitted with compression clamping rings and strainer baskets.
  2. Roof drains must be provided with a minimum 36" x 36" sumped area. Slope of tapered insulation within the sumped area shall not exceed 4" in 12".
  3. Extend the roofing membrane over the drain opening. Locate the drain and cut a hole in the roofing membrane directly over the drain opening. Provide a ½ " of membrane flap extending past the drain flange into the drain opening. Punch holes through the roofing membrane at drain bolt locations.
  4. For cast iron and aluminum drains, the roofing membrane must be set in a full bed of water cut-off mastic on the drain flange prior to securement with the compression clamping ring. Typical mastic application is one 10.5 ounce cartridge per drain.
  5. Lap seams shall not be located within the sump area. Where lap seams will be located within the sump area, a separate roof membrane drain flashing a minimum of 12" larger than the sump area must be installed. The roof membrane shall be mechanically attached 12" on center around the drain with screws and plates. The separate roof drain

flashing shall be heat welded to the roof membrane beyond the screws and plates, extended over the drain flange, and secured as above.

6. Tighten the drain compression ring in place.

J. Curbs and Ducts:

1. Flash curbs and ducts with membrane flashing adhered to the curb substrate with bonding adhesive.
2. Water cut-off mastic shall be applied between the curb/duct surface and membrane flashing underneath all exposed termination bars. Exposed termination bars shall be mechanically fastened 8" on center; termination bars that are counter flashed shall be fastened 12" on center.
3. All coated metal curb flashings and dry applied membrane flashings must be provided with separate metal counter flashings, or metal copings.
4. Metal counter flashings are optional with fully adhered membrane curb and duct flashings. Exposed termination bars must be sealed with caulking.
5. Roof membrane must be mechanically attached along the base of walls that are flashed with membrane flashing with screws and plates (deck securement) or screws and inverted termination bar (wall securement) at the following rate:

Fully Adhered Systems	8" on center
Mechanically Fastened System	8" on center

K. Parapet and Building Walls:

1. Flash walls with membrane flashing adhered to the wall substrate with bonding adhesive.
2. Secure membrane flashing at the top edge with a termination bar. Water cut-off mastic shall be applied between the wall surface and membrane flashing underneath all exposed termination bars. Exposed termination bars shall be mechanically fastened 8" on center; termination bars that are counter flashed shall be fastened 12" on center.
3. All coated metal wall flashings and dry applied membrane flashings must be provided with separate metal counter flashings, or metal copings.
4. Roof membrane must be mechanically attached along the base of walls that are flashed with membrane flashing with screws and plates (deck securement) or screws and inverted termination bar (wall securement) at the following rate:

Fully Adhered Systems	12" on center
Mechanically Fastened System	12" on center

L. Roof Edging:

1. Roof edge flashing is applicable for both edge conditions as well as exterior edges of parapet walls.
2. Flash roof edges with coated metal flanged edging nailed 4" on center to pressure-treated wood nailers, and heat weld roof membrane to metal flanges.
3. Alternatively, flash roof edges with a 2-piece snap on fascia system, adhering roof membrane to metal cant with bonding adhesive and face nailing the membrane 8" on center prior to installing the snap-on fascia.
4. Flash roof edge scuppers with a scupper insert of coated metal that is mechanically attached to the roof edge and integrated as part of the metal edging.

M. Reinforced Membrane Flashings:

1. The thickness of the flashing membrane shall be the same as the thickness of the roofing membrane.
2. Apply bonding adhesive to both the substrate surface and the underside of the flashing membrane, at the rate of 120 square feet/gallon per surface for solvent-based bonding adhesives, and at the rate of 200 square feet/gallon per surface for water-borne bonding adhesive. The bonding adhesive must be allowed to dry until tacky to the touch before flashing membrane application.
3. Apply the adhesive only when outside temperature is above 40°F. Recommended minimum application temperature is 50°F to allow easier adhesive application.
4. The membrane flashing shall be carefully positioned prior to application to avoid wrinkles and buckles.

**3.8 WALKWAYS**

- A. Walkway Pads: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads, approximately 3/16 inch (5 mm) thick, of materials acceptable to roofing system manufacturer.

**3.9 FIELD QUALITY CONTROL**

- A. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Architect.
- B. Notify Architect or Owner 48 hours in advance of the date and time of inspection.

**3.10 PROTECTING AND CLEANING**

- A. Protect sheet membrane roofing 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 Architect and Owner.
- B. Correct deficiencies in or remove roofing that does not comply with requirements, repair substrates, reinstall roofing, and repair sheet flashings to a condition free of damage and deterioration at the time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

**SECTION 07 6210****GALVANIZED STEEL FLASHING AND TRIM****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Furnish and install miscellaneous flashing, counterflashing, and hold-down clips as described in Contract Documents and not specified to be of other material.

**1.2 REFERENCES**

- A. Reference Standards:
  - 1. ASTM International:
    - a. ASTM A 653-05, 'Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.'
    - b. ASTM A 792-03, 'Standard Specification for Steel Sheet, 55 Percent Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.'

**PART 2 - PRODUCTS****2.1 SYSTEM**

- A. Manufacturers:
  - 1. Type Two Acceptable Manufacturers Of Metal:
    - a. CMG – Coated Metals Group, Denver, CO [www.cmgmetals.com](http://www.cmgmetals.com).
    - b. Englert Inc, Perth Amboy, NJ [www.englertinc.com](http://www.englertinc.com).
    - c. Fabral, Lancaster, PA [www.fabral.com](http://www.fabral.com).
    - d. Firestone Metal Products, Anoka, MN [www.unaclad.com](http://www.unaclad.com).
    - e. MBCI, Houston, TX [www.mbc.com](http://www.mbc.com).
    - f. Metal Sales Manufacturing Corp, Sellersburg, IN [www.mtlsales.com](http://www.mtlsales.com).
    - g. Petersen Aluminum Corp, Elk Grove, IL [www.pac-clad.com](http://www.pac-clad.com).
    - h. Ryerson, Chicago, IL [www.ryerson.com](http://www.ryerson.com).
    - i. Equal as approved by Architect before installation. See Section 01 6200.
- B. Materials:
  - 1. Sheet Metal:
    - a. Galvanized iron or steel meeting requirements of ASTM A 653, G 90 or Galvalume steel meeting requirements of ASTM A 792 AZ50, 50 ksi.
      - 1) 22 ga 0.792 mm for hold-down clips.
      - 2) 24 ga 0.635 mm for all other.
- C. Fabrication:
  - 1. Form accurately to details.
  - 2. Profiles, bends, and intersections shall be even and true to line.
  - 3. Fold exposed edges 1/2 inch 13 mm to provide stiffness.
- D. Finish:
  - 1. Metal exposed to view shall have face coating of polyvinylidene Fluoride (PVF<sub>2</sub>) Resin-base finish (Kynar 500 or Hylar 5000) containing 70 percent minimum PVF<sub>2</sub> in resin portion of formula. Thermo-cured two coat system consisting of corrosion inhibiting epoxy primer and top coat

- factory applied over properly pre-treated metal. Reverse side coating shall be thermo-cured system consisting of corrosion inhibiting epoxy primer applied over properly pre-treated metal.
2. Color as selected by Architect from Manufacturer's standard colors.

## 2.2 ACCESSORY PRODUCTS

- A. Sealants: Rubber base type conforming to Fed Spec TC-S-00230.
- B. Fasteners:
  1. Of strength and type consistent with function.
  2. Nails: Hot-dipped galvanized.
  3. Screws, Bolts, And Accessory Fasteners: Galvanized or other acceptable corrosion resistant treatment.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Install with small, watertight seams.
- B. Slope to provide positive drainage.
- C. Provide sufficient hold down clips to insure true alignment and security against wind.
- D. Provide 4 inch 100 mm minimum overlap.
- E. Allow sufficient tolerance for expansion and contraction.
- F. Insulate work to prevent electrolytic action.

### 3.2 CLEANING

- A. Leave metals clean and free of defects, stains, and damaged finish.

**END OF SECTION**

**SECTION 07 6322****STEEL FASCIA****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
1. Furnish and install metal fascia as described in Contract Documents.

**1.2 REFERENCES**

- A. Reference Standards:
1. ASTM International:
    - a. ASTM A 653-02a, 'Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.'
    - b. ASTM A 792-05, 'Standard Specification for Steel Sheet, 55 Percent Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.'

**1.3 WARRANTY**

- A. Manufacturer's written 20-year guarantee for finish.

**PART 2 - PRODUCTS****2.1 ASSEMBLIES**

- A. Manufacturers:
1. Type One Acceptable Manufacturers Of Metal:
    - a. AEP / Span, Dallas, TX [www.aep-span.com](http://www.aep-span.com).
    - b. ATAS Aluminum Products, Allentown, PA [www.atas.com](http://www.atas.com)
    - c. CMG – Coated Metals Group, Denver, CO [www.cmgmetals.com](http://www.cmgmetals.com).
    - d. Firestone Metal Products, Anoka, MN [www.unaclad.com](http://www.unaclad.com).
    - e. Englert Inc, Perth Amboy, NJ [www.englertinc.com](http://www.englertinc.com).
    - f. Fabral, Lancaster, PA [www.fabral.com](http://www.fabral.com).
    - g. Ryerson, Chicago, IL [www.ryerson.com](http://www.ryerson.com).
    - h. MBCI, Houston, TX [www.mbc.com](http://www.mbc.com).
    - i. Metal Sales Manufacturing Corp, Sellersburg, IN [www.mtlsales.com](http://www.mtlsales.com).
    - j. Petersen Aluminum Corp, Elk Grove, IL [www.pac-clad.com](http://www.pac-clad.com)
    - k. Equal as approved by Architect before bidding. See Section 01 6200.
- B. Materials: Minimum 24 ga, hot-dipped galvanized to meet requirements of ASTM A 653, 1.25 oz/sq ft or galvalume meeting requirements of ASTM A 792 AZ50, 50 ksi and complete with accessories recommended by Manufacturer for proper installation.
- C. Fabrication: Fascia may either be shop-fabricated using metal from a specified manufacturer, or a factory-fabricated standard system from a specified manufacturer.
- D. Finishes:
1. Face coating polyvinylidene Fluoride (PVF<sub>2</sub>) Resin-base finish (Kynar 500 or Hylar 5000) for coil coating components containing 70 percent minimum PVF<sub>2</sub> in resin portion of formula. Thermo-

- cured two coat system consisting of corrosion inhibiting epoxy primer and top coat factory applied over properly pre-treated metal.
2. Reverse side coating thermo-cured system consisting of corrosion inhibiting epoxy primer applied over properly pre-treated metal.
  3. Color as selected by Architect from Manufacturer's standard colors.

## 2.2 ACCESSORY PRODUCTS

- A. Fastening Devices: Galvanized steel screws.
- B. Continuous Soffit Vent:
  1. Type Three Acceptable Products:
    - a. Vent-A-Strip by Alcoa Building Products, Sydney, OH [www.alcoa.com/alcoahomes](http://www.alcoa.com/alcoahomes).
    - b. Equal as approved by Architect before installation. See Section 01 6200.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Conceal fasteners except where details might require a minimum number to be exposed. Paint heads of exposed fasteners to match background.
- B. Install with slip joints at each end. Screw to substrate through pre-drilled, over-size holes.
- C. Isolate from dissimilar metals not part of fascia system to prevent electrolytic action.
- D. Repair buckling or bowing due to improper installation at no cost to Owner.

**END OF SECTION**

**SECTION 07 9213****ELASTOMERIC JOINT SEALANTS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Furnish and install sealants not specified to be furnished and installed under other Sections.
  - 2. Quality of sealants to be used on Project not specified elsewhere, including submittal, material, and installation requirements.
- B. Related Requirements:
  - 1. Removing existing sealants specified in Sections where work required.
  - 2. Furnishing and installing of sealants is specified in Sections specifying work to receive new sealants.
  - 3. Section 07 2419: Sealants for EIF Systems.

**1.2 SUBMITTALS**

- A. Action Submittals:
  - 1. Product Data:
    - a. Manufacturer's literature and installation recommendations for each Product.
    - b. Schedule showing joints requiring sealants. Show also backing and primer to be used.
- B. Informational Submittals:
  - 1. Manufacturer Report: Certificate from Manufacturer indicating date of manufacture.

**1.3 DELIVERY, STORAGE, AND HANDLING**

- A. Handle to prevent inclusion of foreign matter, damage by water, or breakage.
- B. Deliver and keep in original containers until ready for use.
- C. Store in a cool place, but never under 40 deg F 4 deg C.

**PART 2 - PRODUCTS****2.1 SYSTEMS**

- A. Manufacturers:
  - 1. Manufacturer List:
    - a. Dow Corning Corp, Midland, MI [www.dowcorning.com](http://www.dowcorning.com).
    - b. GE Sealants & Adhesives, Huntersville, NC .
    - c. Laticrete International Inc, Bethany, CT [www.laticrete.com](http://www.laticrete.com).
    - d. Sherwin-Williams, Cleveland, OH [www.sherwin-williams.com](http://www.sherwin-williams.com).
    - e. Sika Corporation, Lyndhurst, NJ [www.sikaconstruction.com](http://www.sikaconstruction.com) .
    - f. Tremco, Cleveland, OH [www.tremcosealants.com](http://www.tremcosealants.com) .
- B. Materials:
  - 1. Sealants provided shall meet Manufacturer's shelf-life requirements.
  - 2. Sealants At Exterior Building Elements:

- a. Louvers.
  - b. Wall penetrations.
  - c. Connections.
  - d. Parapet caps.
  - e. Other joints necessary to seal off building from outside air and moisture.
  - f. Category Four Approved Products. See Section 01 6200 for definitions of Categories.
    - 1) Dow Corning:
      - a) Primer: 1200.
      - b) Sealant: 791.
    - 2) GE Sealants & Adhesives:
      - a) Primer: SS4044.
      - b) Sealant: Silpruf SCS 2000.
    - 3) Tremco:
      - a) Primer:
        - (1) Metal: No. 20.
        - (2) Other: No. 23.
      - b) Sealant: Spectrum 1.
- 3. Sealants At Exterior Sheet Metal And Miscellaneous:
    - a. Penetrations in soffits and fascias.
    - b. Roof vents and flues.
    - c. Flashings.
    - d. Gutters.
    - e. Category Four Approved Products. See Section 01 6200 for definitions of Categories.
      - 1) 791 or 790 by Dow Corning.
      - 2) Sikaflex 15LM by Sika Corp.
      - 3) Tremsil 600 by Tremco.
  - 4. Color: As selected by Architect from Manufacturer's standard colors.

## 2.2 ACCESSORY PRODUCTS

- A. Backing: Flexible closed cell, non-gassing polyurethane or polyolefin rod or bond breaker tape as recommended by Sealant Manufacturer for joints being sealed.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Remove existing sealants where specified. Surfaces shall be clean, dry, and free of dust, oil, grease, dew, or frost.
- B. Apply primer, if required.
- C. Joint Backing:
  - 1. Rod for open joints shall be at least 1-1/2 times width of open joint and of thickness to give solid backing. Backing shall fill up joint so depth of sealant bite is no more than **3/8 inch 10 mm** deep.
  - 2. Apply bond-breaker tape in shallow joints as recommended by Sealant Manufacturer.

### 3.2 APPLICATION

- A. Do not use damaged or deteriorated materials.
- B. Apply sealant with hand-calking gun with nozzle of proper size to fit joints. Use sufficient pressure to insure full contact to both sides of joint to full depth of joint. Apply sealants in vertical joints from bottom to top.

- C. Tool joints immediately after application of sealant if required to achieve full bedding to substrate or to achieve smooth sealant surface. Tool joints in opposite direction from application direction, i.e., in vertical joints, from the top down. Do not 'wet tool' sealants.
- D. Depth of sealant bite shall be **1/4 inch 6 mm** minimum and **1/2 inch 13 mm** maximum, but never more than one half or less than one fourth joint width.
- E. Do not apply caulking at temperatures below **40 deg F 4 deg C**.
- F. Calk gaps between painted or coated substrates and unfinished or pre-finished substrates. Calk gaps larger than **3/16 inch 9 mm** between painted or coated substrates.

### 3.3 CLEANING

- A. Clean adjacent materials, which have been soiled, immediately (before setting) as recommended by Manufacturer.

**END OF SECTION**

## **DIVISION 09: FINISHES**

### **09 9000 PAINTS AND COATINGS**

- 09 9001 COMMON PAINTING AND COATING REQUIREMENTS (09901)
- 09 9113 EXTERIOR PAINTED GALVANIZED METAL (09913)

END OF TABLE OF CONTENTS

**SECTION 09 9001**

**COMMON PAINTING AND COATING REQUIREMENTS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Includes But Not Limited To:
  1. Common procedures and requirements for field-applied painting and coating.
- B. Related Sections:
  1. Section 07 9213: Quality of Elastomeric Joint Sealants.

**1.2 REFERENCES**

- A. Master Painters Institute:
  1. MPI(a), Mar 2001, 'Architectural Painting Specification Manual.'
  2. MPI(r), Mar 2001, 'Maintenance Repainting Manual.'

**1.3 DEFINITIONS**

- A. Gloss Levels:
  1. Specified paint gloss level shall be defined as sheen rating of applied paint, in accordance with following terms and values, unless specified otherwise for a specific paint system.

Gloss Level '1'	Traditional matte finish - flat	0 to 5 units at 60 degrees to 10 units maximum at 85 degrees.
Gloss Level '2'	High side sheen flat - 'velvet-like' finish	10 units maximum at 60 degrees and 10 to 35 units at 85 degrees.
Gloss Level '3'	Traditional 'eggshell-like' finish	10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees.
Gloss Level '4'	'Satin-like' finish	20 to 35 units at 60 degrees and 35 units minimum at 85 degrees.
Gloss Level '5'	Traditional semi-gloss	35 to 70 units at 60 degrees.
Gloss Level '6'	Traditional gloss	70 to 85 units at 60 degrees.
Gloss Level '7'	High gloss	More than 85 units at 60 degrees.

- B. Properly Painted Surface: Surface that is uniform in appearance, color, and sheen and free of foreign material, lumps, skins, runs, sags, holidays, misses, strike-through, and insufficient coverage. Surface free of drips, spatters, spills, and overspray caused by Paint Applicator. Compliance will be determined when viewed without magnification at a distance of 5 feet minimum under normal lighting conditions and from normal viewing position (MPI(a), PDCA P1.92).
- C. Damage Caused By Others: Damage caused by individuals other than those under direct control of Painting Applicator (MPI(a), PDCA P1.92).
- D. Latent Damage: Damage or conditions beyond control of Painting Applicator caused by conditions not apparent at time of initial painting or coating work.

## 1.4 SUBMITTALS

- A. Product Data:
  - 1. Include following information for each painting system, arranged in same order as in Project Manual.
    - a. Manufacturer's cut sheet for each component of system indicating ingredients and percentages by weight and by volume, environmental restrictions for application, and film thicknesses and spread rates.
    - b. Copies of appropriate entries from MPI Approved Product List. Products from MPI Approved Product List is mandatory for Sections 09 9112, 09 9123 and 09 9124. If proposed manufacturer has products listed for these three Sections, but not for other Sections, Architect may approve products submitted by proposed manufacturer for other Sections.
    - c. Manufacturer's substrate preparation instructions and application instruction for each painting system used on Project.
    - d. Confirmation of colors selected and that each area to be painted or coated has color selected for it.
  - 2. Provide two copies of Product Data submission, one copy to be kept on Project site and second copy to be included in Operations And Maintenance Manual.

## 1.5 QUALITY ASSURANCE

- A. Regulatory Requirements: Paint and painting materials shall be free of lead and mercury, and have VOC levels acceptable to local jurisdiction.
- B. Field Samples:
  - 1. Before application of any paint system, meet on Project site with Architect, Owner's representative, and Manufacturer's representative. Architect may select one surface for application of each paint system specified. This process will include establishing acceptable substrate conditions required for Project before application of paints and coatings.
  - 2. Apply paint systems to surfaces indicated by Architect following procedures outlined in Contract Documents and Product Data submission specified above.
  - 3. After approval of samples, proceed with application of paint system throughout Project. Approved samples will serve as standard of acceptability.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver specified products in sealed, original containers with Manufacturer's original labels intact on each container. Deliver amount of materials necessary to meet Project requirements in single shipment. Notify Architect two working days before delivery of paint.
- B. Store materials in single place.
- C. Keep storage area clean and rectify any damage to area at completion of work of this Section. Maintain storage area at 55 deg F 13 deg C minimum.

## 1.7 PROJECT CONDITIONS

- A. Project Environmental Conditions:
  - 1. Perform painting operations at temperature and humidity conditions recommended by Manufacturer for each operation and for each product.

## 1.8 SCHEDULING

- A. Coordinate with other trades for materials and systems that require painting before installation.

- B. Schedule painting and coating work to begin when work upon which painting and coating work is dependent has been completed. Schedule installation of pre-finished and non-painted items, which are to be installed on painted surfaces, after application of final finishes.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. Materials used for any painting system shall be from single manufacturer unless approved otherwise in writing by painting system manufacturer. Include such approvals in Product Data submittal.
- B. Linseed oil, shellac, turpentine, and other painting materials shall be pure, be compatible with other coating materials, bear identifying labels on containers, and be of highest quality of an approved manufacturer listed in MPI manuals. Tinting color shall be best grade of type recommended by Manufacturer of paint or stain used on Project.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Instructions to applicator to begin painting and coating work will indicate that substrates to receive painting and coating materials have been previously inspected as part of work of other Sections and are complete and ready for application of painting and coating systems as specified in those Sections.
- B. Before beginning work of this Section, examine, and test surfaces to be painted or coated for adhesion of painting and coating systems. Report in writing to Architect of conditions that will adversely affect adhesion of painting and coating work. Do not apply painting and coating systems until party responsible for adverse condition has corrected adverse condition.
- C. Report defects in substrates that become apparent after application of primer or first finish coat to Architect in writing and do not proceed with further work on defective substrate until such defects are corrected by party responsible for defect.

### **3.2 PREPARATION**

- A. Protection:
  - 1. Remove rags and waste used in painting operations from building each night. Take every precaution to avoid danger of fire.
  - 2. Protect other finish work and adjacent materials during painting. Do not splatter, drip, or paint surfaces not intended to be painted. These items will not be spelled out in detail but pay special attention to the following:
    - a. Do not paint finish copper, bronze, chromium plate, nickel, stainless steel, anodized aluminum, or monel metal except as explicitly specified.
- B. Surface Preparation:
  - 1. Prepare surfaces in accordance with MPI requirements and requirements of Manufacturer for each painting system specified, unless instructed differently in Contract Documents. Bring conflicts to attention of Architect in writing.
  - 2. Surfaces to be painted shall be clean and free of loose dirt. Clean and dust surfaces before painting or finishing.
  - 3. Do no exterior painting while surface is damp, unless recommended by Manufacturer, nor during rainy or frosty weather. Interior surfaces shall be dry before painting. Moisture content of materials to be painted shall be within tolerances acceptable to Paint Manufacturer.

### 3.3 APPLICATION

- A. Paint or finish complete all surfaces to be painted or coated as described in Contract Documents, including but not limited to following items.
  - 1. Paint mechanical, and electrical, items that require field painting as indicated in Contract Documents. These include but are not limited to:
    - a. Mechanical flues and pipes penetrating roof.
- B. Apply sealant in gaps 3/16 inch and smaller between two substrates that are both to be painted or coated. Sealants in other gaps furnished and installed under Section 07 9213.
- C. In multiple coat paint work, tint each succeeding coat with slightly lighter color, but approximating shade of final coat, so it is possible to check application of specified number of coats. Tint final coat to required color.
- D. Spread materials smoothly and evenly. Apply coats to not less than wet and dry film thicknesses and at spreading rates for specified products as recommended by Manufacturer.
- E. Touch up suction spots after application of first finish coat.
- F. Paint shall be thoroughly dry and surfaces clean before applying succeeding coats.
- G. Make edges of paint adjoining other materials or colors clean, sharp, and without overlapping.

### 3.4 ADJUSTMENT

- A. Correct deficiencies in workmanship as required to leave surfaces in conformance with 'Properly Painted Surface,' as defined in this Section. Correction of 'Latent Damage' and 'Damage Caused By Others,' as defined in this Section, is not included in work of this Section.

### 3.5 CLEANING

- A. As work proceeds and upon completion of work of any painting Section, remove paint spots from floors, walls, glass, or other surfaces and leave work clean, orderly, and in acceptable condition. Remove debris caused by work of paint Sections from premises.

### 3.6 PAINT COLOR SCHEDULE

- A. Color Levels:
  - 1. Color Level II:
    - a. Number and placement of interior and exterior paint colors and gloss levels shall be as defined by Color Level II from MPI Manual, PDCA P3-93 as modified in following paragraph.
    - b. No more than one paint color or gloss level will be selected for same substrate within designated interior rooms or exterior areas.
  - 2. Color Level III:
    - a. Number and placement of interior and exterior paint colors and gloss levels shall be Color Level III from MPI Manual, PDCA P3-93 as modified in following paragraph.
    - b. Several paint colors or gloss levels will be selected for same substrate within designated interior rooms or exterior areas.

**END OF SECTION**

**SECTION 09 9113****EXTERIOR PAINTED GALVANIZED METAL****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Preparing and painting new exterior exposed galvanized metal surfaces as Described in Contract Documents.
  - 2. Preparing and painting following existing exterior exposed galvanized metal surfaces as described in Contract Documents.
    - a. Pipes
    - b. Flues
    - c. Roof jacks
    - d. Other such metal flashings
- B. Related Requirements:
  - 1. Section 09 9001: Common Painting Requirements.

**PART 2 - PRODUCTS****2.1 SYSTEM**

- A. Manufacturers:
  - 1. Category Four Approved Products and Manufacturers. See Section 01 6200 for definitions of Categories.
    - a. Products listed in edition of MPI Approved Product List current at time of bidding and later are approved, providing they meet VOC requirements in force where Project is located.
- B. Description:
  - 1. Exposed Miscellaneous Structural Steel:
    - a. New Surfaces: Use MPI(a) EXT 5.3D Pigmented Polyurethane Finish system.
    - b. Previously Finished Work: Use MPI(r) REX 5.3D Pigmented Polyurethane Finish system.
  - 2. All Other:
    - a. New Surfaces: Use MPI(a) EXT 5.3H Latex Finish system
    - b. Previously Finished Surfaces: Use MPI(r) REX 5.3H Latex Finish system.
- C. Performance:
  - 1. Design Criteria:
    - a. New Surfaces: MPI Premium Grade finish requirements.
    - b. Deteriorated Existing Surfaces: MPI Premium Grade finish requirements.
    - c. Sound Existing Surfaces: MPI Custom Grade finish requirements.
    - d. Gloss / Sheen Level Required: Gloss Level 5.
- D. Materials:
  - 1. Polyurethane:
    - a. Vinyl Wash Primer Coat: MPI Product 80.
    - b. Finish Coats:
      - 1) Epoxy MPI Product 101.
      - 2) Polyurethane MPI Product 72.
  - 2. Latex:
    - a. Waterborne Primer Coat: MPI Product 134.
    - b. Finish Coats: MPI Product 11.

**PART 3 - EXECUTION****3.1 APPLICATION**

- A. General: See appropriate paragraphs of Section 09 9001.
- B. New Surfaces:
  - 1. Clean 'passivated' or 'stabilized' galvanized steel as specified in SSPC-SP1.
  - 2. After removal of 'passivated' or 'stabilized' coating or for surfaces without coating, clean surfaces to be painted with mineral spirits or product recommended by Paint Manufacturer. Change to clean rags or wiping cloths regularly to reduce possibility of re-contamination of surface.
  - 3. Apply prime coat.
  - 4. Apply finish coats.
- C. Existing Painted Surfaces:
  - 1. Remove deteriorated and chalked existing paint and rust deposits down to sound substrate by sanding, scraping, or wire brushing.
  - 2. Clean existing sound painted surfaces as well as scraped and sanded existing painted surfaces as recommended by Paint Manufacturer.
  - 3. Apply prime coat.
  - 4. Apply finish coats.
- D. Existing Unpainted Surfaces:
  - 1. Wirebrush or power wash as necessary to remove 'white rust.'
  - 2. Apply prime coat.
  - 3. Apply finish coats.

**END OF SECTION**