MULTI-STEP BIDDING PROCESS
FOR
CONTRACTORS

Request For Solicitation For Construction Services

Stage II – Roofing Contractors Bidders List FY10

June 25, 2009

WOLVERINE SERVICES BUILDING RE-ROOF
UTAH VALLEY UNIVERSITY
OREM, UTAH

DFCM Project No. 09080790

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: Wolverine Services Building Re-roof – Utah Valley University – Orem, Utah
DFCM Project No: 0980790

Project Description: Removal and disposal of existing EPDM single ply roofing system. Installation on new perimeter wood nailers, insulation, taper system, and 60 mil fully adhered EPDM single ply roofing system with necessary flashings. Provide alternate prices as indicated on the plans. This is a tax exempt project.
Construction Cost Estimate: $230,000.00

Company	Contact	Fax
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 9**:30 AM** on **Tuesday, June 30, 2009 at the West parking lot of the Wolverine Services Building, UVU Main Campus.** All pre-qualified prime contractors wishing to bid on this project must attend this meeting.

Bids must be submitted by **2:30 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

PROJECT NAME: WOLVERINE SERIVCES BUILDING RE-ROOF
UTAH VALLEY UNIVERSITY – OREM, UTAH
DFCM PROJECT #:09080790

Event	Day	Date	Time	Place
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	9:30 AM	Wolverine Services Bldg. UVU Main Campus Orem, Utah
Deadline for Submitting Questions	Wednesday	July 1, 2009	2:30 PM	Matt Boyer– DFCM E-mail:mboyer@utah.gov Fax (801)-538-3267
Addendum Deadline (exception for bid delays)	Thursday	June 2, 2009	2:30 PM	DFCM web site*
Prime Contractors Turn in Bid and Bid Bond	Monday	July 6, 2009	2:30 PM	DFCM 4110 State Office Building SLC, UT
Subcontractors List Due	Tuesday	July 7, 2009	2:30 PM	DFCM 4110 State Office Building SLC, UT Fax 801-538-3677
Substantial Completion Date	Thursday	September 18, 2009	4:00 PM	

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

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 **Wolverine Services Building Re-roof - Utah Valley University – Orem, Utah - DFCM Project No. 09080790** 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 accessories as noted per plans.

_____ DOLLARS ($_____)
(In case of discrepancy, written amount shall govern)

I/We guarantee that the Work will be Substantially Complete by September 18, 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 l00% 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. l953, 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:

_____

_____

STATE OF _____)
) ss.
COUNTY OF _____)

By: _____
Attorney-in-Fact (Affix Corporate Seal)

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

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

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:

TYPE OF WORK	SUBCONTRACTOR, "SELF" OR "SPECIAL EXCEPTION"	SUBCONTRACTOR BID AMOUNT	CONTRACTOR LICENSE #
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.

TYPE OF WORK	SUBCONTRACTOR, "SELF" OR "SPECIAL EXCEPTION"	SUBCONTRACTOR BID AMOUNT	CONT. LICENSE #

We certify that:

l. 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%

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.

IN WITNESS WHEREOF, the parties hereto have executed this Contractor's Agreement on the day and year stated hereinabove.

CONTRACTOR: _____

_____
Signature Date

Title: _____

State of _____)
)
County of _____) _____
Please type/print name clearly

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 by me duly sworn (or affirmed), did say that he (she) is the _____ (title or office) of the firm and that said document was signed by him (her) in behalf of said firm.

_____
Notary Public

(SEAL)

My Commission Expires _____

APPROVED AS TO AVAILABILITY OF FUNDS:

_____
David D. Williams, Jr. Date
DFCM Administrative Services Director

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

_____
Lynn A. Hinrichs Date
Assistant Director Construction Management

APPROVED AS TO FORM:
ATTORNEY GENERAL
July 15, 2008
By: Alan S. Bachman
Asst Attorney General

APPROVED FOR EXPENDITURE:

_____
Division of Finance Date

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

Agency: _____
Agent: _____
Address: _____
Phone: _____

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

PAYMENT BOND

(Title 63, Chapter 56, U. C. A. l953, 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, l953, 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: _____

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

Agency: _____
Agent: _____
Address: _____
Phone: _____

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

STATE OF UTAH - DEPARTMENT OF ADMINISTRATIVE SERVICES

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.

_____ by: _____

CONTRACTOR (include name of firm) (Signature) DATE

_____ by: _____

A/E (include name of firm) (Signature) DATE

_____ by: _____

USING INSTITUTION OR AGENCY (Signature) DATE

_____ by: _____

DFCM (Owner) (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

STATE OF UTAH - DEPARTMENT OF ADMINISTRATIVE SERVICES

Division of Facilities Construction and Management

DFCM

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
5-Exceptional	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"			
4-Very Good	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
3-Satisfactory	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
2-Marginal	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
1-Unsatisfactory	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

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

2. Rate Contractor administration of project costs, change orders and financial management of the project budget.	**Score**
Agency Comments:	
A & E Comments:	
DFCM Project Manager Comments:	

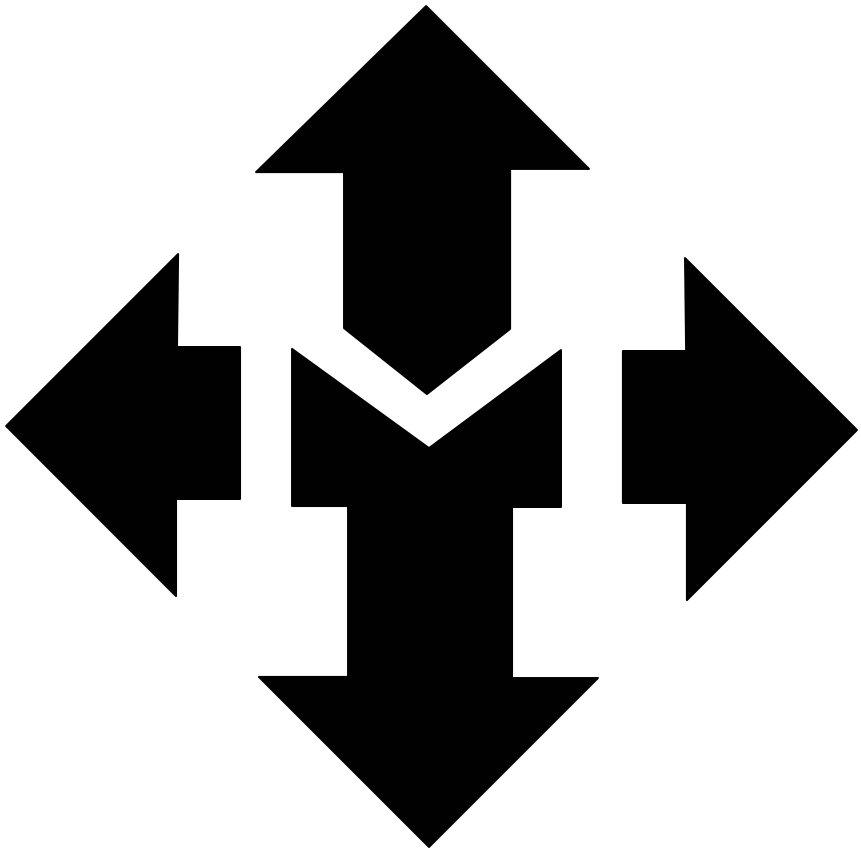
3. Rate Contractor's performance and adherence to Project Schedule, delay procedures and requirements of substantial completion, inspection and punch-list performance.	**Score**
Agency Comments:	
A & E Comments:	
DFCM Project Manager Comments:	

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.	**Score**
Agency Comments:	
A & E Comments:	
DFCM Project Manager Comments:	

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:	

Signed by:	Date:	Mean Score

Additional Comments:



Project Manual

for

Wolverine Center

800 West University Parkway
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

SET NO. 1

DIVISION 06: WOOD, PLASTICS, AND COMPOSITES

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.
      b. Hoover Treated Wood Products, Thomson, GA www.frtw.com.
      c. Osmose Inc, Griffin, GA www.osmose.com.
      d. U S Borax Inc, Valencia, CA www.borax.com/wood.
      e. VIANCE, Charlotte, NC 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.
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.
b) Redhead Division of ITW, Wood Dale, IL www.itw-redhead.com and Markham, ON 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.
2) Simpson Strong Tie Co, Dublin, CA www.strongtie.com.
3) United Steel Products Co Inc (USP), Montgomery, MN 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. All lumber is to be fire treated and bear required stamp stating that it complies with this requirement.
6. 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.
   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.

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

END OF TABLE OF CONTENTS

SECTION 07 5323

ETHYLENE-PROPYLENE-DIENE-MONOMER ROOFING: EPDM

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install fully adhered membrane roofing system as described in Contract Documents.

B. Products Installed But Not Furnished Under This Section:
   1. Sheet metal work including caps, sleeves, umbrella hoods, pipe enclosure boxes, strapping, and scuppers.

C. Related Requirements:
   1. Section 07 6210 or 07 6220: Sheet metal work.

1.2 REFERENCES

A. Reference Standards:
   1. ASTM International:
      a. ASTM C 208-95 (2001), 'Standard Specification for Cellulosic Fiber Insulating Board.
      b. ASTM C 564-03a, 'Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings.'
      c. ASTM C 920-02, 'Standard Specification for Elastomeric Joint Sealants.'
      d. ASTM C 1177-06, 'Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.'
      e. ASTM D 312-00, 'Standard Specification for Asphalt Used in Roofing.'

1.3 ADMINISTATIVE REQUIREMENTS

A. Pre-Installation Conference: Schedule pre-installation conference after installation of roof sheathing but before application of roofing system.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work.
   1. Base flashings and membrane terminations.
   2. Roof plan showing orientation of existing gypsum roof deck and orientation of membrane roofing.
   3. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.

C. Samples for Verification: For the following products, in manufacturer’s standard sizes:
   1. Sheet roofing, of color specified, including T-shaped side and end lap seam.
   2. Walkway pads or rolls.

D. Qualification Data: For qualified Installer and manufacturer.

E. Manufacturer Certificate: Signed by roofing manufacturer certifying that membrane roofing system complies with requirements specified in “Performance Requirements” Article.
   1. Submit evidence of complying with performance requirements.
   2. Prior to start of work, submit Manufacturer’s preinstallation product compliance notification as specified in “Performance Requirements” Article.

F. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of membrane roofing system.

G. Research/Evaluation Reports: For components of membrane roofing system, from the ICC-ES.

H. Field quality-control reports.

I. DFCM history record.

J. Maintenance Data: For membrane roofing system to include in maintenance manuals.

K. Provide a 24 hour emergency phone number to project manager and agency contact person.

L. Contractor must submit a pre-installation noticed from manufacture prior to start of any work. This will include confirmation that the membrane and all accessories being used meet requirements of specification. This will also include confirmation that the scope of work is in accordance with published technical data as per manufacture. This also includes confirmation that a warranty has been requested and will be issued on the DFCM manufacture warranty form at the completion of roofing. This document must be included in contractor’s submittal package.

M. Submit record Shop Drawings to manufacturer, if requested.

1.5 QUALITY ASSURANCE

A. Qualifications: Applicator shall be approved by Roofing System Manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Make no deliveries to Project until installation is about to commence, or until approved storage area is provided. Deliver and maintain materials in Manufacturer's original, unopened containers or rolls, with labels intact and legible.

B. Store materials, except membranes, in dry place with temperatures between 60 and 80 deg F 16 and 27 deg C. Restore materials that are allowed to become colder than specified temperature to proper temperature before using. Store materials on clean, raised platforms and with weather protective covering when stored outdoors.

C. Select and operate material handling equipment so as not to damage existing construction or new roofing system, or to overload structural system.

1.7 FIELD CONDITIONS

A. Ambient Conditions:
   1. Temperature ranges shall be within tolerances allowed for material being used.
   2. Follow Manufacturer's instructions for cold temperature installation. Follow specified precautions for storage of materials and expose only enough cement and adhesive to be used within four-hour period.
   3. Roof surface shall be free of ponded water, ice, and snow.
   4. Do not expose membrane and accessories to constant temperature in excess of 180 deg F 82 deg C.

1.8 WARRANTY

A. Special Warranty: DFCM form, without monetary limitation, Total Systems warranty in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within specified warranty period.
   1. Special warranty includes membrane roofing, base flashings, roof insulation, fasteners, adhesives, and other components of membrane roofing system.
   2. Provide manufacturer's I-90 wind warranty.
   3. Warranty Period: 20 years from date of Substantial Completion.

B. Special Project Warranty: Submit roofing Installer's warranty, on DFCM contractor warranty form provided by Owner, signed by Installer, covering Work of this Section, including all components of membrane roofing system such as membrane roofing, base flashing, roof insulation, fasteners, and walkway products, for the following warranty period:
   1. Warranty Period: Five years from date of Substantial Completion.

C. Provide

PART 2 - PRODUCTS

2.1 SYSTEM

A. Manufacturers:
   1. Category Four Approved System Manufacturers. See Section 01 6200 for definitions of Categories.
      a. Carlisle Syntech Systems, Carlisle, PA www.carlisle-syntec.com.
      b. Firestone Building Products Co, Carmel, IN www.firestonebpco.com.
      c. Genflex by Gencorp Co, Indianapolis, IN www.genflex.com.
      d. Versico, Carlisle, PA www.versico.com.
      e. Johns Manville, Denver, CO www.jm.com.

B. Performance:
   1. Design Criteria:
      a. System shall have Class 'A' rating from UL.
      b. Perimeter wood blocking, insulation, and sheet metal installation shall, as minimum, be in accordance with recommendations of FM Loss Prevention Data Sheet 1-49, June 1985.

C. Materials:
   1. Insulation / Recovery Board:
      1) Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class I, Grade 3, felt or glass-fiber mat facer on both major surfaces. Use insulation with Long Term Thermal Resistance (LTTR) that meets current code and requirements of building.
      2) A fire barrier must be installed as part of this system if required by manufacturer to meet the code requirement for such a barrier over a wood deck. Dens-Deck or approved equal will be acceptable.
      b. Mopping Asphalt: Meet requirements of ASTM D 312, High Melt Point.
   2. Membrane: EPDM, 0.060 inch 1.5 mm thick by optimum width and length determined by job conditions
   3. Coating: Not used on this project.
   4. Walkways:
      a. Flexible Walkways: Factory-formed, nonporous, heavy-duty, solid-rubber, slip-resisting, surface-textured walkway pads, approximately 3/16 inch thick, and acceptable to membrane roofing system manufacturer.
         1) Provide product equivalent to Carlisle's Sure-Seal Walkway Pads (30 inches by 30 inches with factory rounded corners) adhered to the EPDM membrane roof with Splicing Cement or Splice Tape.
   5. Elastomeric Sealant:

a. Meet requirements of one of following:
1) ASTM C 920, Type M, Grade NS, Use NT, Class 25.
2) Fed Spec TT-S-001543A.

6. Vent Pipe Extensions:
a. Pipe: Schedule 40 PVC pipe of equivalent diameter to vent pipe.
b. Connectors: Neoprene pipe sleeves with stainless steel drawbands, meeting requirements of ASTM C 564.
7. Elastomeric Flashing:
a. Elastomeric Sheet Flashing: Uncured EPDM, 0.060 inch 1.5 mm thick.
b. Preformed Pipe Sleeves: Factory prefabricated, 0.060 inch 1.5 mm thick.
8. Bonding (Flashing) Adhesive: As furnished by Membrane Manufacturer.
9. Splicing Adhesive: EPDM based contact cement furnished by Membrane Manufacturer.
10. Lap Sealant: EPDM based, trowel or gun consistency as selected by Membrane Manufacturer.
11. Water Cut-Off Mastic: As furnished by Membrane Manufacturer.
12. Surface Cleaner: As furnished by Membrane Manufacturer.
13. Mastic: One component, low viscosity, self-wetting butyl mastic.
14. Nite Seal: Compatible with materials with which it is used, furnished by Membrane Manufacturer.
15. Pourable Sealer: Compatible with materials with which it is used, furnished by Membrane Manufacturer.
16. Rubber Nailing Strips (RNS) and Fasteners: Extruded nailing strips and fasteners furnished by Membrane Manufacturer.
17. Separation Sheets:
a. Aluminum foil laminated between two layers of kraft paper with non-asphaltic adhesive, for use at membrane splices and dry applied cavity fill locations.
b. Acceptable Products:
1) Poly-Foil Barrier 718200 by Fortifiber Corp, Reno, NV www.fortifiber.com
2) Equal as approved by Architect before installation and acceptable to Membrane Manufacturer. See Section 01 6200.
18. Coatings: Not used on this project.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protection:
1. Prevent interior leakage, materials falling into interior, and other such occurrences.
2. Install temporary water cut-offs at completion of each day's work and completely remove upon resumption of work.
3. Provide temporary walkways and work platforms as necessary to complete work under this Section with no damage to existing surfaces, surfaces exposed during work, and to new materials applied.
4. Coordinate application of membrane to provide protection of underlying materials from wetting or other damage by the elements on a continuous basis.
5. Sheet metal sleeves, caps, and enclosures shall be completely installed on daily basis.

B. Surface Preparation:
1. Surfaces to receive new materials shall be free of dirt, debris, loose materials and free moisture. Mechanically scrape exposed surfaces, if necessary to remove projections.
2. Verify that surfaces receiving new materials have no defects or errors that would result in poor application or cause latent defects in workmanship.
3. Inspect anchoring of wood members for conformance to specified requirements. Upgrade nonconforming fasteners to meet specified requirements.
4. Reset or replace existing fasteners that are loose, deformed, damaged, or corroded.
5. Fill insulation joints wider than 1/4 inch 6 mm with insulation cut to fit.

3.2 INSTALLATION

A. Installation shall be in conformance with latest edition of Manufacturer's specification except where Contract Documents are more restrictive.

B. Wood Blocking And Nailers:
   1. Install blocking, cants, nailers, and sheathing in straight lines and level planes at proper elevation for installation of roofing system, and in accordance with recommendations of FM Loss Prevention Data Sheet 1-49, June 1986 and Manufacturer's requirements.
      a. Do not use warped wood members unless they can be fastened adequately to permanently hold them in their required alignment.
      b. Top surface of horizontal blocking shall match elevation of surface of roof insulation.
   2. Lumber / Plywood Connections to Lumber:
      a. Nail spacing shall be 12 inches 300 mm on center maximum and staggered across face of piece. Locate nails within 3 inches 75 mm of each end of piece. Roof edge blocking 96 inches 2 400 mm each way outside from corners shall be nailed at 6 inches 150 mm on center maximum.
      b. Drive nail heads flush with wood surface. Penetration into connecting piece shall be 1-1/4 inch 32 mm minimum.
      c. Installed withdrawal resistance shall be 100 lbs per nail minimum.
   3. Lumber / Plywood Anchors to Masonry or Concrete:
      a. Space anchors as shown on Drawings or 36 inches 900 mm on center maximum when not shown. Stagger anchors if members are more than 5 inches 125 mm wide. Roof edge blocking 96 inches 2 400 mm each way from outside corners shall be nailed at 18 inches 450 mm on center maximum.
      b. Countersink head of anchors to be flush with surface.
      c. Withdrawal resistance shall be 300 lbs per anchor minimum or number of anchors increased to equal that specified. Minimum penetration into masonry shall be 1-1/2 inches 38 mm.

C. Insulation:
   1. Install leveling or fireguard layer, if required.
   2. Mechanically attach one layer of insulation to deck with four mechanical fasteners per board. Tape joints. Provide special tapered insulation pieces at roof drains and elsewhere as shown on Drawings. Moisture content of insulation shall not exceed 4 percent.
   3. Install recovery / hard board.

D. Membrane Placing:
   1. Position membrane over substrate without stretching.
   2. Allow membrane to relax approximately 1/2 hour before splicing and flashing.
   3. Fold sheet back so one half of underside of sheet is exposed. Sheet fold shall be smooth, no wrinkles or buckles.
   4. Install separation sheet over insulation that needs protection from solvents.
   5. Apply bonding adhesive evenly to one half of underside of membrane and to substrate as recommended by Membrane Manufacturer. Apply so bonding adhesive on both surfaces dries simultaneously. Allow to dry until tacky.
   6. Standing at fold, roll membrane slowly onto coated substrate without causing wrinkles.
   7. Press bonded sheet to substrate with stiff broom.
   8. Fold uncoated half of membrane back and repeat steps 5 through 7 above.

E. Membrane Splicing:
   1. Fold top sheet back about 12 inches 300 mm. Clean both mating surfaces at splice areas using clean rags with splice wash. Surface should be solid black in color.
   2. Apply splicing cement to both surfaces using a 3 or 4 inch 75 or 100 mm wide by 1/2 inch 13 mm thick paint brush or 4 inch 100 mm medium nap plastic core paint roller at a rate of approximately 175 lineal feet 12 lineal meters of 3 inch 75 mm splice area per gallon.
      a. Brush apply smoothly or roll apply splicing cement, to obtain 100 percent coverage.
      b. Do not allow glob or puddle.
      c. Allow cement to dry until tacky but not string or stick to a dry finger touch.

3. Roll top sheet toward splice area, until the cemented area is nearly touching cement on bottom sheet along entire length of splice. Allow sheet to fall freely into place, avoiding stretching and wrinkling.
4. Roll splice with 2 inch 50 mm wide steel roller, using positive pressure, toward the outer edge of splice.
5. Clean splice edge, extending one inch 25 mm minimum onto top and bottom membranes with splice wash.
6. Apply bead of lap sealant completely covering splice edge. Feather lap sealant with specially preformed putty knife or trowel. Complete lap sealant application of splices by end of each working day.

F. Perimeter Nailing:
1. Install nailers at perimeter of each roof level, curb flashing, skylight, expansion joint, and similar penetration as follows:
   a. Mechanically attach membrane to wood nailers using Manufacturer's recommended insulation fasteners applied through rubber nailing strips.
   b. Space fasteners at 12 inches 300 mm on center maximum, starting one inch from ends with fasteners driven flush with rubber nailing strips.
   c. Cut of ends at a bevel from the fastener head.
   d. Where nailing strips would interfere with water flow, cut off and bevel to allow 6 inch150 mm open space between fasteners.
   e. Seal over rubber nailing strip with 6 inch 150 mm wide flashing using cement and lap sealant on edges.

G. Flashing:
1. Complete splice between flashing and main roof sheet before bonding flashing to vertical surface. Splice shall extend at least 3 inches 75 mm beyond fasteners that attach membrane to horizontal surface.
   a. Clean surface of EPDM in splice area with surface cleaner, using clean rags.
   b. Apply bonding adhesive to both flashing and surface to which it is being bonded at rate covering approximately 60 sq ft 5.6 sq meters of finished surface.
   c. After bonding adhesive has dried to point where it does not string or stick to dry finger, roll flashing into adhesive. Assure that flashing does not bridge where there are changes of direction, for example, where parapet meets roof deck.
   d. Nail installed flashing at top of flashing every 12 inches 300 mm on center maximum under metal counterflashing or cap.
2. Flash penetrants passing through membrane. Flash pipe with molded pipe flashings where installation is possible. Install vent stack and pipe extensions where necessary to achieve 8 inch 200 mm minimum flashing height. Where molded pipe flashing cannot be installed, use field fabricated pipe seal.
3. Seal clusters of pipes and unusual shaped penetrations with 2 inch 50 mm minimum pourable sealer. Use pitch pocket type seal as shown on Membrane Manufacturer's standard details.
4. Roof Drains:
   a. Solvent clean and wire brush drain bowl and clamping ring to remove bituminous material.
   b. Clean bottom surface of EPDM in clamping area with surface cleaner using clean rags.
   c. Apply membrane to drain using full application of mastic and install clamping ring.
   d. Set and secure scupper flanges through a continuous bead of mastic, as shown on Drawings. Provide flashing over scupper flanges.

H. Daily Seal:
1. Exercise care to ensure that water does not flow beneath completed sections of roof. Temporarily seal loose edge of membrane daily and when weather is threatening.
   a. Mix two components thoroughly according to instructions on label.
   b. Apply at rate of 100 lineal feet 6.8 meters per gallon liter to smooth surfaces, and 12 inches 300 mm from edge of membrane onto exposed substrate. If necessary, use trowel to spread material in order to achieve complete seal.
   c. After embedding membrane, check for continuous contact. Weight edge to provide continuous pressure over length of cut-off.
   d. Pull sheet free before continuing installation.

3.3 FIELD QUALITY CONTROL

A. Field Tests:
   1. Withdrawal tests of fasteners and nailers may be required.
   2. Samples of flashing will be taken to determine degree to which it has cured before installation.
   3. Sample of completed splice may be required at location selected by Architect. Patching of test opening shall be at no additional cost to Owner and use specified splicing methods.
   4. Field tests may be performed by Architect to evaluate moisture content of installed materials.

B. Manufacturer Services: Upon completion of installation, representative of Membrane Manufacturer shall make inspection to ensure that system was installed according to Manufacturer's published specifications and details. Make no deviation from Manufacturer's specifications without prior written approval by Manufacturer.

3.4 CLEANING

A. Remove roofing materials from surfaces not specified to receive these materials such as walls, walkways, metal flashings, etc.

B. Repair existing grass areas, plantings, and other site improvements that are damaged or altered during performance of roofing work.

C. Remove scraps, equipment, debris, and foreign materials from roof and grounds at completion of the Work.

D. Check roof drains to determine if drain is plugged, or if drain bowl, clamping ring, dome, etc, are damaged.

END OF SECTION

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.
      b. Englert Inc, Perth Amboy, NJ www.englertinc.com.
      c. Fabral, Lancaster, PA www.fabral.com.
      d. Firestone Metal Producdts, Anoka, MN www.unaclad.com.
      e. MBCI, Houston, TX www.mbci.com.
      f. Metal Sales Manufacturing Corp, Sellersburg, IN www.mtlsales.com.
      g. Petersen Aluminum Corp, Elk Grove, IL www.pac-clad.com.
      h. Ryerson, Chicago, IL 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 polyvinyledene Fluoride (PVF_2) Resin-base finish (Kynar 500 or Hylar 5000) containing 70 percent minimum PVF_2 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 6310

STEEP SLOPE ROOF FLASHING

PART 1 - GENERAL

1.1 SUMMARY

A. Products Furnished But Not Installed Under This Section:
   1. Pipe flashing for vents and flues.

B. Related Requirements:
   1. Section 07 3113: Installation.
   2. Section 07 9213: Quality of sealants.

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.'

PART 2 - PRODUCTS

2.1 MATERIALS

A. Manufacturers:
   1. Type Two Acceptable Manufacturers Of Metal:
      a. CMG – Coated Metals Group, Denver, CO www.cmgmetals.com.
      b. Englert Inc, Perth Amboy, NJ www.englertinc.com.
      c. Fabral, Lancaster, PA www.fabral.com.
      d. Firestone Metal Products, Anoka, MN www.unaclad.com.
      e. MBCI, Houston, TX www.mbci.com.
      f. Metal Sales Manufacturing Corp, Sellersburg, IN www.mtlsales.com.
      g. Petersen Aluminum Corp, Elk Grove, IL www.pac-clad.com.
      h. Ryerson, Chicago, IL www.ryerson.com.
      i. Equal as approved by Architect before installation. See Section 01 6200.

B. Drip Edge:
   1. Metal:
      a. Steel: Minimum 24 ga 0.635 mm, 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.

C. Fabrication:
   1. Profiles, bends, and intersections shall be even and true to line.

D. Finishes:
   1. Face coating polyvinyledene Fluoride (PVF_2) Resin-base finish (Kynar 500 or Hylar 5000) for coil coating components containing 70 percent minimum PVF_2 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 of steel flashings to be 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. Pipe Flashing For Plumbing Vent Lines:
1. 16 oz sheet copper or 4 lb per sq ft lead flashing.
2. Flashing base shall be at least 24 inches 600 mm square.

B. Roof Jacks For Metal Flues: Factory-made galvanized steel.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Interface With Other Work: Coordinate with pipe installers for proper size of roof jacks and pipe flashing.

B. Pipe Flashing For Plumbing Vent Lines.
1. Copper: Fit snugly around pipes. Calk between copper flashing and pipe with specified sealant.
2. Lead: Fit around pipes and turn down into pipe 1/2 inch 13 mm with turned edge hammered against pipe wall.

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.
      b. ATAS Aluminum Products, Allentown, PA www.atas.com
      c. CMG – Coated Metals Group, Denver, CO www.cmgmetals.com.
      d. Firestone Metal Products, Anoka, MN www.unaclad.com.
      e. Englert Inc, Perth Amboy, NJ www.englertinc.com.
      f. Fabral, Lancaster, PA www.fabral.com.
      g. Ryerson, Chicago, IL www.ryerson.com.
      h. MBCI, Houston, TX www.mbci.com.
      i. Metal Sales Manufacturing Corp, Sellersburg, IN www.mtlsales.com.
      j. Petersen Aluminum Corp, Elk Grove, IL 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 polyvinyledene Fluoride (PVF_2) Resin-base finish (Kynar 500 or Hylar 5000) for coil coating components containing 70 percent minimum PVF_2 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.
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 facia system to prevent electrolytic action.

D. Repair buckling or bowing due to improper installation at no cost to Owner.

END OF SECTION

SECTION 07 7123

MANUFACTURED GUTTERS AND DOWNSPOUTS

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install gutters and downspouts as described in Contract Documents.

B. Related Requirements:
   1. Section 07 9213: Quality of sealants for joints.

1.2 REFERENCES

A. Reference Standard:
   1. Sheet Metal & Air Conditioning Contractors National Association Inc:
      a. SMACNA Architectural Sheet Metal Manual, 5th edition 1993.

1.3 SUBMITTALS

A. Action Submittals:
   1. Shop Drawings: Show gutter cross-section, mounting method, gauge of metal, expansion joint design and locations, and downspout locations minimum.

PART 2 - PRODUCTS

2.1 ASSEMBLIES

A. Manufacturers:
   1. Type Two Acceptable Manufacturers of Metal:
      a. CMG – Coated Metals Group, Denver, CO www.cmgmetals.com.
      b. Englert Inc, Perth Amboy, NJ www.englertinc.com.
      c. Fabral, Jackson, GA www.fabral.com.
      d. Firestone Metal Products, Anoka, MN www.unaclad.com.
      e. MBCI, Houston, TX www.mbci.com.
      f. Metal Sales Manufacturing Corp, Sellersburg, IN www.mtlsales.com.
      g. Petersen Aluminum Corp, Elk Grove, IL www.pac-clad.com.
      h. Reynolds Metals Company, Richmond, VA www.rmc.com.
      i. Ryerson, Chicago, IL www.ryerson.com.
      j. Equal as approved by Architect before installation. See Section 01 6200.

B. Materials
   1. Steel:
      a. Downspouts: Rectangular, 26 ga 0.478 mm galvanized steel including necessary elbows.
      b. Gutters: 24 ga 0.635 mm galvanized steel.
      c. Brackets: 22 ga 0.792 mm galvanized steel or 26 ga 0.478 mm double-hemmed minimum.

C. Fabrication:
   1. Fabricate in accordance with SMACNA Manual recommendations, where applicable.
   2. Cross-sectional configuration of gutter shall be Style A, Page 1.11 of SMACNA Manual.
   3. Form accurately to details.

4. Profiles, bends, and intersections shall be even and true to line.

D. Finishes:
1. Metal exposed to view shall have face coating of polyvinyledene Fluoride (PVF_2) Resin-base finish (Kynar 500 or Hylar 5000) containing 70 percent minimum PVF_2 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.

PART 3 - EXECUTION

3.1 PREPARATION

A. Before starting work, verify governing dimensions at building. Inspect for conditions that would prevent installation of specified system. Do not install over improper conditions.

3.2 INSTALLATION

A. Insulate work from fascia as necessary to prevent electrolytic action.

B. Allow no more than 40 feet between downspouts. Lap joints in downspouts 1-1/2 inches 38 mm minimum in direction of water flow.

C. Furnish and install outlet tubes and gutter ends where required. Furnish and install expansion joints in runs exceeding 50 feet 15 meters and in runs that are restrained at both ends. Lap other joints in gutter one inch minimum, apply sealant in lap, and rivet 2 inches 50 mm on center maximum.

3.3 FIELD QUALITY CONTROL

A. Field Tests: At completion of this work, block downspouts and flood gutters. Notify Architect two working days before testing. Repair leaks and adjust for proper drainage.

3.4 CLEANING

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

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.
      b. GE Sealants & Adhesives, Huntersville, NC .
      c. Laticrete International Inc, Bethany, CT www.laticrete.com.
      d. Sherwin-Williams, Cleveland, OH www.sherwin-williams.com.
      e. Sika Corporation, Lyndhurst, NJ www.sikaconstruction.com .
      f. Tremco, Cleveland, OH 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 calking 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

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 mini-mum 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