



STATE OF UTAH - DEPARTMENT OF ADMINISTRATIVE SERVICES

Division of Facilities Construction and Management

DFCM

STANDARD LOW BID PROJECT

August 8, 2007

EXTERIOR STAIRS UPGRADES

**UTAH VALLEY STATE COLLEGE
OREM, UTAH**

DFCM Project Number 07199790

King Engineering, Inc
2825 East Cottonwood Parkway #500
Salt Lake City, Utah 84121

TABLE OF CONTENTS

	<u>Page Numbers</u>
Title Page	1
Table of Contents	2
Notice to Contractors	3
Project Description and Qualifications	4
Project Schedule	5
Bid Form	6
Instructions to Bidders	8
Bid Bond	12
Contractors Sublist Form	13
Contractor's Agreement	16
Performance Bond	21
Payment Bond	22
Certificate of Substantial Completion	23
General Contractor Past Performance Rating	
UVSC Site Map	

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 General Conditions dated May 25, 2005.

DFCM Application and Certification 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>

NOTICE TO CONTRACTORS

Sealed bids will be received by the Division of Facilities Construction and Management (DFCM) for:

EXTERIOR STAIR UPGRADES
UTAH VALLEY STATE COLLEGE – OREM, UTAH
DFCM PROJECT NO: 07199790

Bids will be in accordance with the Contract Documents that will be available at 4:00 PM on Wednesday, August 8, 2007, and distributed in electronic format only on CDs from DFCM, 4110 State Office Building, SLC, Utah and on the DFCM web page at <http://dfcm.utah.gov>. For questions regarding this project, please contact Sean Crawford, DFCM, at 801-419-4936. No others are to be contacted regarding this bidding process. The construction budget for this project is \$105,000.00

A **mandatory** pre-bid meeting will be held at 11:00 AM on Thursday, August 16, 2007 at the UVSC Pumphouse in Orem, Utah. Reference the attached UVSC Campus map. The pumphouse is located northeast of the baseball stadium and southeast of the McKay Event Center. Parking for this meeting is available at the baseball stadium to the west of the irrigation ponds. All bidders wishing to bid on this project are required to attend this meeting.

Bids will be received until the hour of 3:00 PM on Tuesday, August 28, 2007 at 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.

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 and Management reserves the right to reject any or all bids or to waive any formality or technicality in any bid in the interest of DFCM.

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
Marla Workman, Contract Coordinator
4110 State Office Building, Salt Lake City, Utah 84114

PROJECT DESCRIPTION

Utah Valley State College is need of repairing three existing exterior stairs located west of the Sorenson Student Center and north of the Pope Science Building and having a new stairwell completed at the existing irrigation pump vault south of the McKay Event Center and east of the Baseball Stadium.

Existing Stairwell #1 is an existing concrete cantilever stairwell. Approximately 60" long and 2" to 10" wide concrete spall on the underside of the concrete cantilever on the first flight of steps is to be patched with structural flowable patch material. The exposed steel for the entire stairwell is to be repainted and all concrete sealed.

Existing Stairwell #2 is an existing steel and concrete stairwell. The exposed steel for the entire stairwell is to be repainted and all concrete sealed.

Existing Stairwell #3 is an existing steel and concrete stairwell. The existing concrete and steel pans at the intermediate landings (2) to be completely removed and replaced. The exposed steel for the entire stairwell is to be repainted and all concrete sealed.

The existing concrete irrigation pump vault (approximately 30' x 15') is to have a new concrete stairwell (5' x 30') installed adjacent to it. The vault is below grade and the footings are below the groundwater table, therefore dewatering will be required. The stairwell shall have safety rails around the perimeter at grade. A new door shall be cut into the existing vault at the base of the stairs and a sump and pump installed in the bottom landing. Two new 4" schedule 80 PVC conduits shall be run from the vault to the electrical distribution room in the Pope Science Building, a distance of approximately 160'.

Reference the Drawings and Specifications for complete requirements.

QUALIFICATIONS

Only qualified contractors who have had proven experience in all phases of this type of construction and/or who have demonstrated successful completion of similar construction projects will be allowed to submit bids for this project.

A Statement of Qualifications will be required to be submitted to DFCM prior to the mandatory pre-bid meeting by all contractors who have not previously contracted with the DFCM. The Statement of Qualifications must be specific to this project and include:

- A five year history of completed similar projects within the entire Scope of Work for this particular project including specific projects, results and references.
- A management plan for this project to detail the construction process from the start to finish with tentative schedules and plans to ensure that the quality and timelines of the work will satisfy the owner and to be in accordance with all drawings and specifications.



PROJECT SCHEDULE

PROJECT NAME:		EXTERIOR STAIRS UPGRADES		
		UTAH VALLEY STATE COLLEGE - OREM, UTAH		
DFCM PROJECT NO.		07199790		
Event	Day	Date	Time	Place
Bidding Documents Available	Wednesday	August 8, 2007	4:00 PM	DFCM 4110 State Office Bldg SLC, UT and the DFCM web site *
Mandatory Pre-bid Site Meeting	Thursday	August 16, 2007	11:00 AM	Pumphouse UVSC Orem, UT **
Last Day to Submit Questions	Tuesday	August 21, 2007	12:00 NOON	E mail to both scrawford@utah.gov and jonking@pavementmanagement.com
Addendum Deadline (exception for bid delays)	Thursday	August 23, 2007	2:00 PM	DFCM web site *
Prime Contractors Turn In Bid and Bid Bond	Tuesday	August 28, 2007	3:00 PM	DFCM 4110 State Office Bldg SLC, UT *
Sub-contractor List Due	Wednesday	August 29, 2007	3:00 PM	DFCM 4110 State Office Bldg SLC, UT Fax 801-538-3677
Substantial Completion Date	Friday	November 30, 2007		

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

** Reference the attached UVSC Campus map.



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 "Notice to Contractors" and in accordance with the "Instructions to Bidders", in compliance with your invitation for bids for the **EXTERIOR STAIRS UPGRADES – UTAH VALLEY STATE COLLEGE – OREM, UTAH – DFCM PROJECT NO. 07199790** 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:

_____ DOLLARS (\$ _____)

(In case of discrepancy, written amount shall govern)

I/We guarantee that the Work will be Substantially Complete by **November 30, 2007**, 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 the Contract Documents, and deliver acceptable Performance and Payment bonds in the prescribed form in the amount of 100% of the Contract Sum for faithful performance of the contract.

The Bid Bond attached, in the amount not less than five percent (5%) of the above bid sum, shall become the property of the Division of Facilities Construction and Management as liquidated damages for delay and additional expense caused thereby in the event that the contract is not executed and/or acceptable 100% Performance and Payment bonds are not delivered within the 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

INSTRUCTIONS TO BIDDERS

1. Drawings and Specifications, Other Contract Documents

Drawings and Specifications, as well as other available Contract Documents, may be obtained as stated in the Invitation to Bid.

2. Bids

Before submitting a bid, each contractor 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. 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 Representative and the necessary changes shall be accomplished by Addendum.

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 deadline for 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 bid bond 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. **NOTE: A cashier's check cannot be used as a substitute for a bid bond.**

3. Contract and Bond

The Contractor's Agreement will be in the form found in the specifications. The Contract Time will be as indicated in the bid. The successful bidder, simultaneously with the execution of the Contract 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.

4. Listing of Subcontractors

Listing of Subcontractors shall be as summarized in the “Instructions and Subcontractor’s List Form”, which are included as part of these 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 is subject to a debarment hearing and may be debarred from consideration for award of contracts for a period of up to three years.

5. Interpretation of Drawings and Specifications

If any person or entity contemplating submitting a bid is in doubt as to the meaning of any part of the drawings, specifications or other Contract Documents, such person shall submit to the DFCM Project Manager a request for an interpretation thereof. The person or entity submitting the request will be responsible for its prompt delivery. Any interpretation of the proposed documents will be made only by addenda posted on DFCM’s web site at <http://dfcm.utah.gov>. Neither the DFCM nor A/E will be responsible for any other explanations or interpretations of the proposed documents. A/E shall be deemed to refer to the architect or engineer hired by DFCM as the A/E or Consultant for the Project.

6. Addenda

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.

7. 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 the State of Utah 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.

8. DFCM Contractor Performance Rating

As a contractor completes each DFCM project, DFCM, the architect/engineer and the using agency will evaluate project performance based on the enclosed “DFCM Contractor Performance Rating” form. The ratings issued on this project will not affect this project but may affect the award on future projects.

9. 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.

10. 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.

11. Right to Reject Bids

DFCM reserves the right to reject any or all Bids.

12. Time is of the Essence

Time is of the essence in regard to all the requirements of the Contract Documents.

13. Withdrawal of Bids

Bids may be withdrawn on written request received from bidder prior to the time fixed for opening. Negligence on the part of the bidder in preparing the bid confers no right for the withdrawal of the bid after it has been opened.

14. 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 A/E. Such written approval must occur prior to the deadline established for the last scheduled addenda to be issued. The A/E's written approval will be in an issued addendum. 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 A/E.

15. 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.

16. Debarment

By submitting a bid, the Contractor certifies that neither it nor its principals, including project and site managers, have been, or are under consideration for, debarment or suspension, or any action that would exclude such from participation in a construction contract by any governmental department or agency. If the Contractor cannot certify this statement, attach to the bid a detailed written explanation which must be reviewed and approved by DFCM as part of the requirements for award of the Project.

BID BOND

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

KNOW ALL PERSONS BY THESE PRESENTS:

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

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

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

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

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

DATED this _____ day of _____, 20_____.

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

By: _____

Title: _____

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

By: _____

Title: _____
(Affix Corporate Seal)

Surety's name and address:

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

STATE OF _____)
) ss.
COUNTY OF _____)

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

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

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

NOTARY PUBLIC

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



INSTRUCTIONS 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, on the following basis:

PROJECTS UNDER \$500,000 - ALL SUBS \$20,000 OR OVER MUST BE LISTED
PROJECTS \$500,000 OR MORE - ALL 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.
- Bidder must list "Self" if performing work itself.

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.

BIDDER LISTING 'SELF' AS PERFORMING THE WORK:

Any bidder that is properly licensed for the particular work and intends to perform that work itself in lieu of a subcontractor that would otherwise be required to be on the subcontractor list, must insert the term 'Self' for that category on the subcontractor list form. Any listing of 'Self' on the sublist form shall also include the amount allocated for that work.

'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.

INSTRUCTIONS AND SUBCONTRACTORS LIST FORM
Page No. 2

GROUND 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	CONT. 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)

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



SUBCONTRACTORS LIST
FAX TO 801-538-3677

PROJECT TITLE: _____

Caution: You must read and comply fully with instructions.

Table with 4 columns: TYPE OF WORK, SUBCONTRACTOR, 'SELF' OR 'SPECIAL EXCEPTION', SUBCONTRACTOR BID AMOUNT, CONT. LICENSE #. The table contains 15 empty rows for data entry.

We certify that:

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

FIRM: _____

DATE: _____

SIGNED BY: _____

NOTICE: FAILURE TO SUBMIT THIS FORM, PROPERLY COMPLETED AND SIGNED, AS REQUIRED IN THESE CONTRACT DOCUMENTS, SHALL BE GROUNDS FOR DFCMS REFUSAL TO ENTER INTO A WRITTEN CONTRACT WITH BIDDER. ACTION MAY BE TAKEN AGAINST BIDDERS BID BOND AS DEEMED APPROPRIATE BY DFCM. 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 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%

CONTRACTOR'S AGREEMENT
PAGE NO. 2

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 Invitation to Bid, 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.

PAYMENT BOND

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

KNOW ALL PERSONS BY THESE PRESENTS:

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

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

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

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

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

IN WITNESS WHEREOF, the said Principal and Surety have signed and sealed this instrument this _____ day of _____, 20____.

WITNESS OR ATTESTATION:

PRINCIPAL:

By: _____ (Seal)

Title: _____

WITNESS OR ATTESTATION:

SURETY:

By: _____ 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



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:

- As-built 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.

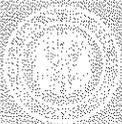
The Contractor shall complete or correct the Work on the list of (Punch List) items appended hereto within _____ calendar days from the above date of issuance of this Certificate. The amount withheld pending completion of the list of items noted and agreed to shall be: \$_____. If the list of items is 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

**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
<u>Agency Comments:</u>	
<u>A & E Comments:</u>	
<u>DFCM Project Manager Comments:</u>	

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

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

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
<u>Agency Comments:</u>	
<u>A & E Comments:</u>	
<u>DFCM Project Manager Comments:</u>	

5. Rate success of Contractor's management plan, completion of the plans mitigation of project risks and performance of value engineering concepts.	Score
<u>Agency Comments:</u>	
<u>A & E Comments:</u>	
<u>DFCM Project Manager Comments:</u>	

Signed by:	Date:	Mean Score
-------------------	--------------	-------------------

Additional Comments:

Index to Technical Specifications

Section	Title
02001	General Work Requirements
02073	Partial Demolition for Remodeling
02220	Excavating, Backfilling, & Compacting
03110	Cast-In-Place Concrete Formwork
03210	Concrete Reinforcing Steel
03313	Normal Weight Structural Concrete
05031	Priming
05057	Welding
05311	Steel Floor Deck
05521	Handrails & Railings
06210	Door & Frame Installation
08111	Standard Steel Doors
08119	Standard Steel Frames
09901	General Painting Requirements
09912	Paint on Exterior Plain Iron & Steel
09913	Paint on Exterior Galvanized Iron

SECTION 02001

GENERAL SITE WORK REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. General procedures and requirements for Site Work.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 EXAMINATION

- A. Site Verification Of Conditions
- 1.48 hours minimum prior to performing any work on site, contact Denny Rucker at 376-5631, Project Manager for UVSC for utility location services.
- 2. Pothole to verify location of existing various underground facilities at sufficient locations to assure that no conflict with the proposed work exists and sufficient clearance is available to avoid damage to existing facilities.
 - 3. Perform potholing at least 10 working days in advance of performing any excavation or underground work.
 - 4. Upon discovery of conflicts or problems with existing facilities, notify Engineer by phone or fax within 24 hours. Follow telephone or fax notification with letter and diagrams indicating conflict or problem and sufficient measurements and details to evaluate problem.

3.2 PREPARATION

- A. Protection
 - 1. Spillage -
 - a. Avoid spillage by covering and securing loads when hauling on or adjacent to public streets or highways.
 - b. Remove spillage and sweep, wash, or otherwise clean project, streets, and highways.
 - 2. Dust Control -
 - a. Take precautions necessary to prevent dust nuisance, both on-site and adjacent to public and private properties.
 - b. Correct or repair damage caused by dust.
 - 3. Erosion Control -
 - a. Take precautions necessary to prevent erosion and transportation of soil downstream, to adjacent irrigation ponds, adjacent landscaping, and into on-site or off-site drainage systems.
 - b. Repair and correct damage caused by erosion.
 - 4. Existing Plants & Features - Do not damage tops, trunks, and roots of existing trees and shrubs on site which are intended to remain. Do not use heavy equipment within branch spread. Interfering branches may be removed only with permission of a representative of UVSC. Do not damage other plants and features which are to remain.
- B. If specified precautions are not taken or corrections and repairs made promptly, Owner may take such steps as may be deemed necessary and deduct costs of such from monies due to Contractor. Such action or lack of action on Owner's part does not relieve Contractor from responsibility for proper protection of the Work.

3.3 REPAIR/RESTORATION

- A. Adjust existing covers, boxes, and vaults to grade.
- B. Replace broken or damaged covers, boxes, and vaults.
- C. Independently confirm size, location, and number of covers, boxes, and vaults which require adjustment.

3.4 FIELD QUALITY CONTROL

- A. If work has been interrupted by weather, scheduling, or other reason, notify Engineer 24 hours minimum prior to intended resumption of grading or compacting.
- B. Owner reserves right to require additional testing to re-affirm suitability of completed work including compacted soils which have been exposed to adverse weather conditions.

END OF SECTION

SECTION 02073

PARTIAL DEMOLITION FOR REMODELING

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
- 1. Demolish and remove portions of existing building and site facilities as described in Contract Documents.
- B. Related Sections
 - 1. Section 02001 - General Sitework Requirements
- 2. New and replacement work specified in appropriate specification Section.

1.2 SUBMITTALS

- A. Not Used.

1.3 SCHEDULING

- A. Coordinate with Owner for equipment and materials to be removed by Owner.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 EXAMINATION

- A. Before beginning work of this Section, inspect areas in which work will be performed.
 - 1. Photograph or video tape existing conditions, including surrounding property if necessary, which could be misconstrued as damage resulting from selective demolition.
 - 2. File copies of photographs/video tapes with Engineer before beginning work of this Section.

3.2 PREPARATION

- A. Notify corporations, companies, individuals, and local authorities owning conduits running to property.
 - 1. Protect and maintain conduits, drains, sewers, pipes, and wires that are to remain on the property.
 - 2. Arrange for removal of wires running to and on property. Remove pipes and sewers in accordance with instructions of above owners.
- B. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structures to be demolished and adjacent facilities to remain. Cease demolition operations and notify Engineer immediately if safety of structure appears to be endangered. Do not resume demolition operations until safety is restored.
- C. Erect and maintain dust-proof and sand proof partitions and closures as required to prevent spread of dust, sand and fumes to occupied portions of building.
- E. Provide weatherproof closures for exterior openings in vault resulting from demolition work.

3.3 PERFORMANCE

- A. Execute work in an orderly and careful manner, with due consideration for students and the public.
- B. Carefully remove, disassemble, or dismantle as required, and store in approved location on site, existing items to be reused in completed work.
- C. Remove all parts of the vault and stairwell to be demolished including foundations and footings unless shown otherwise. Use bracing and shoring where necessary to avoid collapse of structure. Erect dust chutes and use for removal of materials, rubbish, and debris as necessary.
- D. Concrete & Paving Removal
 - 1. Sawcut joints between material to be removed and material to remain to full depth.
 - 2. Hand excavate trench one foot wide and 16 inches deep along concrete or paving to be removed. Cut roots encountered with saw, axe, or pruners. Do not cut roots with excavating equipment. Remove roots under concrete and paving to be replaced down to 12 inches below finish grade.

3.4 CLEANING

- A. Keep building, site, and adjoining streets reasonably clean, and sweep areas affected by demolition operations daily during performance of demolition. If necessary, sprinkle rubbish and debris to lay dust.
- B. Promptly remove materials, rubbish, and debris from building and from property.

END OF SECTION

SECTION 02220

EXCAVATING, BACKFILLING, & COMPACTING

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Perform Project excavating, trenching, backfilling, and compacting as described in Contract Documents, except as specified below.
 - 2. Procedure and quality for excavating, trenching, backfilling, and compacting performed on Project under other Sections unless specifically specified otherwise.

B.Related Sections

- 1. Section 02001 - General Sitework Requirements
- 2. Performance of excavating, backfilling, and compacting outside of vault required for electrical and work is responsibility of respective Section doing work unless arranged differently by Contractor.

1.2 REFERENCES

- A. American Society For Testing And Materials
 - 1. ASTM D 1557-91, "Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort"
 - 2. ASTM D 2216-90, "Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock"
 - 3. ASTM D 2487-93, "Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System)"
 - 4. ASTM D 2922-91, "Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)"
 - 5. ASTM D 3017-88, "Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)"

1.3 DEFINITIONS

- A. Relative Compaction - Ratio of field dry density as determined by ASTM D 2922 and ASTM D 3017 or 2216, and laboratory maximum dry density as determined by ASTM D 1557.

1.4 QUALITY ASSURANCE

- A.

1.5 PROJECT/SITE CONDITIONS

- A. Contact UVSC to locate existing utilities in and around the vault before proceeding.

1.6 SEQUENCING

- A. Before backfilling, show utility and service lines being covered on record set of Drawings. Do not backfill until utilities involved have been tested and approved by Engineer and until instructed by Engineer.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Standard Backfill
 - 1. Well graded material free from debris, organic material, frozen materials, brick, lime, concrete, and other material which would prevent adequate performance of backfill.
 - 2. Fill shall conform to ASTM D 2487 soil classification groups GW, GP, GM, SW, SP, or SM.
 - a. Fill more than 24 inches below finish grade may not contain stones over 6 inches diameter and 90 percent minimum of fill shall be smaller than 1-1/2 inch in any direction.
 - b. Fill less than 24 inches below finish grade may contain no stones larger than 1-1/2 inches in any direction.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Carefully examine site and available information to determine type soil to be encountered. Discuss problems with Engineer before proceeding with work.

3.2 PERFORMANCE

- A. Excavating
 - 1. Building Footings & Foundations -
- a.Excavate as necessary for proper placement and forming of footings and foundations.

- b. Bottom of excavations to receive footings shall be undisturbed soil.
 - c. Excavation Carried Deeper Than Required -
 - 1) Under Footings - Fill with concrete specified for footings.
 - 2) Under Slabs - Use specified compacted backfill material.
 - 2. Pavement & Concrete Site Elements -
 - a. Excavate as necessary for proper placement and forming of concrete site elements and pavement structure. Remove vegetation and deleterious material and remove from site.
 - b. Remove and replace exposed material which becomes soft or unstable.
 - 3. Site Utility Trenches -
 - a. Excavate to proper alignment, depth, and grade. Excavate to sufficient width to allow adequate space for proper installation and inspection of site utility.
 - b. Backfill over-excavated areas with compacted native material.
 - 4. If unusual excavating conditions are encountered, stop work and notify Engineer.
- B. Backfilling
 - 1. Around Buildings & Structures - Hand backfill when close to vault or where damage to vault might result.
 - 2. Site Utilities -
 - a. Landscape Areas - Cover utilities with 3 inches minimum of sand slurry backfill. Place remaining backfill consisting of on-site soil in 12 inch maximum layers compacted as specified. Do not place remaining backfill until sand slurry has cured 72 hours.
 - b. Concrete Site Elements - Extend sand slurry backfill to elevation of subgrade. Do not place base material until sand slurry has cured 72 hours.
- C. Compacting
 - 1. General -
 - a. Do not use puddling or jetting to consolidate fill areas.
 - b. If site material will not compact to specified density or it is suspected that it will not, remove and replace with material specified in PRODUCT section above.
 - 2. Sub-Grade -
 - a. Under Building Slabs/Pads, Concrete Site Elements - Moisture condition soil to uniform moisture content between optimum and 4 percent over optimum, and mechanically tamp 6 inches deep to 90 percent minimum of relative compaction.
 - b. Landscape Areas - Compact to 85 percent relative compaction to within 12 inches of finished grade elevation.
 - 3. Fill, Backfill, & Base -
 - a. Under Building Slabs/Pads, - Place in 8 inch maximum layers, dampen (do not soak), and mechanically tamp to 95 percent minimum of maximum density as established by ASTM D 1557.
 - b. Under Concrete Site Elements & Around Foundation Walls - Place in 8 inch maximum layers, dampen (do not soak), and mechanically tamp to 90 percent minimum of maximum density as established by ASTM D 1557.
 - c. Site Utility Trenches -
 - 1) Consolidate sand slurry backfill using vibrating or other means.
 - 2) Moisture condition standard backfill to be placed above sand slurry backfill to plus or minus 2 percent of optimum moisture and compact to 90 percent minimum relative compaction to within 12 inches of finish grade.
 - d. Backfill Under Footings - Not allowed.
 - e. Other Backfills - Place other fills in 12 inch layers and compact to 90 percent relative compaction.

3.3 REPAIR/RESTORATION

- A. Damage to other portions of the Work due to work of this Section shall be repaired at no additional cost to Owner. On new work, damage shall be repaired by original installer.

3.4 CLEANING

- A. Debris and material not necessary for Project are property of Contractor and are to be removed prior to completion of Project. However, if material necessary for Project is hauled away, replace with specified backfill material.

END OF SECTION

SECTION 03110

CAST-IN-PLACE CONCRETE FORMWORK

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Design, construction, and safety of formwork.
 - 2. Furnish and install required formwork ready for placing of concrete.
 - 3. Strip and dispose of formwork.

B.Related Sections

- 1. Section 03313 - Tolerances for placed concrete

1.2 SUBMITTALS

- A. Quality Assurance/Control - Manufacturer's application instructions for form release agent.

PART 2 PRODUCTS

2.1 COMPONENTS

- A. Forms - Wood, metal, or plastic as arranged by Contractor. Forming material shall be compatible with specified form release agents and with finish requirements for concrete to be left exposed or to receive decorative finish.

B.Form Release Agents

- 1. Chemically acting type
- 2. Approved Manufacturers -
 - a. Crete-Lease 727 or 20-VOC by Cresset Chemical Co, Weston, OH (800) 367-2020 or approved equal
 - b. DEBOND Form Coating by L & M Construction Chemicals, Omaha, NE (800) 362-3331 or approved equal
 - c. Approved Equal which will provide CCS-2 surface minimum as approved by Engineer before bidding.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Forms
 - 1. Assemble forms so forms are sufficiently tight to prevent leakage.
 - 2. Properly brace and tie forms.
- 3. Provide temporary cleanouts at base of tall forms to facilitate cleaning and inspection.
 - 4. Make proper form adjustments before, during, and after concreting.
 - 5. Use new forms, or used forms that have been cleaned of loose concrete and other debris from previous concreting and repaired to proper condition. Provide smooth liner on forms used for concrete to be exposed if necessary to attain specified finish quality.
 - 6. Use metal cold joint forms when unable to place concrete for footings, foundations, and slabs in continuous pours.
- B. Accessories
 - 1. Provide for installation of inserts, templates, fastening devices, and other accessories to be set in concrete prior to placing.
 - 2. Position anchor bolts for hold-down anchors and columns and securely tie in place prior to placing concrete.
- C. Form Release Agents
 - 1. Apply in accordance with Manufacturer's recommendations.
 - 2. Film thickness shall be no thicker than as recommended by Manufacturer to attain specified finish. Finish shall be of quality equal to CCS-1 or CCS-2 surface as defined by Cresset Chemical or approved equal.
 - 3. Allow no release agent on reinforcing steel or footings.
- D. Form Removal - Removal of forms can usually be accomplished in 12 to 24 hours. If temperature is below 50 deg F or if concrete (stairs, beams, etc) depends on forms for structural support, leave forms intact for sufficient period for concrete to reach adequate strength.

END OF SECTION

SECTION 03210
CONCRETE REINFORCING STEEL

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnishing and installing reinforcing as described in Contract Documents.

1.2 REFERENCES

- A. American Society For Testing And Materials
 - 1. ASTM A 615-90, "Standard Specification for Deformed & Plain Billet-Steel Bars for Concrete Reinforcement"

1.3 SUBMITTALS

- A. Quality Assurance/Control
 - 1. Provide reinforcing placement drawings.
 - 2. If requested by Engineer, provide mill certificate.

1.4 DELIVERY, STORAGE, & HANDLING

- A. Reinforcing steel shall be free of rust, scale, or other coating at time of delivery and placing. Properly protect rebar on site after delivery.
- B. Deliver bars separated by size and tagged with manufacturer's heat or test identification number.

PART 2 PRODUCTS

2.1 MATERIAL

- A. Reinforcing Steel
 - 1. Rebars shall have grade identification marks and conform to ASTM A 615.
 - a. Grade 60 minimum, except dowels which are to be field bent Grade 40 minimum.
 - b. Bars shall be deformed type.
 - c. Bars shall be free of rust, scale, or other bond-reducing coatings.
 - d. All bars and dowels shall be epoxy coated.
- B. Rebar Spacing Blocks
- 1. Approved Manufactured Types -
 - a. Single cover block with wire by Frank Co, Humbolt, TX or approved equal
 - b. Equals as approved by Engineer before bidding.
 - 2. Other Approved Types -
 - a. Plain concrete blocks.

2.2 FABRICATION

- A. Fabricate reinforcing steel according to "ACI Detailing Manual," 2004 edition.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Site Tolerances
1. Provide following minimum concrete cover for reinforcement (ACI 318-89) -
- a. Concrete cast against and permanently exposed to earth -
 - 1) Exterior Slabs on Grade (where shown) - 2 inches
 - 2) Interior Slabs on Grade - 2 inches
 - 3) Sections other than Slabs - 3 inches
 - b. Concrete Exposed to Earth or Weather -
 - 1) #6 & Larger Bars - 2 inches
 - 2) #5 & Smaller Bars - 1-1/2 inches
 - c. Concrete not exposed to weather or in contact with ground -
 - 1) Slabs, Walls & Joists - 3/4 inches
 - 2) Beams & Columns -
Primary Reinforcement, Ties, Stirrups, & Spirals - 1-1/2 inches
- B. Bend bars cold.
 - C. Accurately place and support with chairs, bar supports, spacers, or hangers as recommended by "ACI Detailing Manual," 2004 edition, except slab on grade work. Support bars in slabs on grade and footings with specified rebar spacing blocks to maintain specified concrete cover.

- D. Dowel vertical reinforcement for columns or walls out of footing or structure below with rebar of same size and spacing required above.
- E. Securely anchor and tie reinforcing bars and dowels prior to placing concrete.
- F. Avoid splices of reinforcing bars at points of maximum stress. Lap bars 40 bar diameters minimum unless dimensioned otherwise on the Drawings.
- G. Run steel reinforcing bars continuous through cold joints.

END OF SECTION

SECTION 03313

NORMAL WEIGHT STRUCTURAL CONCRETE

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install Project concrete work as described in Contract Documents.
 - 2. Quality of concrete used on Project but furnished under other Sections.
 - B. Products Installed But Not Supplied Under This Section
 - 1. Inserts, bolts, boxes, templates, and fastening devices for other work, including those for bases only for Mechanical and Electrical.
 - 2. Concrete accessories.
- C.Related Sections
- 1. Division 02 -
 - a. Cast-in-place concrete site elements
 - b. Laminated vapor barrier and granular base course under slabs
 - c. Cast-in-place retaining walls
 - 2. Furnishing of items to be embedded in concrete specified in Section involved.

1.2 REFERENCES

- A. American Society For Testing And Materials
 - 1. ASTM C 33-90, "Specification for Concrete Aggregates"
 - 2. ASTM C 94-90, "Specification for Ready-Mixed Concrete"
 - 3. ASTM C 150-89, "Specification for Portland Cement"
 - 4. ASTM C 260-86, "Specification for Air-Entraining Admixtures for Concrete"
 - 5. ASTM C 494-92, "Standard Specification for Chemical Admixtures for Concrete"
 - 6. ASTM C 618-93, "Standard Specification for Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete"

1.3 SYSTEM DESCRIPTION

- A. Design Requirements
 - 1. Concrete elements of Project are designed to a value of 4000 psi.
 - B. Performance Requirements
- 1.For testing purposes, following concrete strengths at 28 days are required -
- a. 4000 psi - Exterior, above, below or on grade

1.4 SUBMITTALS

- A. Shop Drawings
 - 1. Show dimensioned locations of anchor bolts for hold-down anchors and columns.
 - 2. Concrete mix design.
- C. Quality Control Submittals
 - 1. Delivery Tickets - Require mix plant to furnish delivery ticket for each batch of concrete. Keep delivery tickets at job-site for use of Owner or his representatives. Tickets shall show following -
 - a. Name of ready-mix batch plant
 - b. Serial number of ticket
 - c. Date and truck number
 - d. Name of Contractor
 - e. Name and location of Project
 - f. Specific class or designation of concrete in conformance with that employed in Project specification
 - g. Amount of concrete
 - h. Time loaded
 - i. Type, name, and amount of admixtures used
 - j. Amount and type of cement
 - k. Total water content
 - l. Sizes and weights of sand and aggregate

1.5 QUALITY ASSURANCE

- A. Pre-Installation Meeting
 - 1. Schedule meeting after placing of footings, installation of forms, installation of reinforcing steel, and installation of anchors, inserts, and blockouts but prior to placing of concrete.
 - 2. In addition to items specified in Section 01 200, review following -
 - a. Approved mix design
 - b. Installation scheduling, coordination, and placement of items installed in and under floor slab
 - c. Placement, finishing, and curing of concrete

1.6 PROJECT/SITE CONDITIONS

- A. Environmental Requirements
 - 1. Cold weather concreting procedures -
 - a. No frozen materials shall be used.
 - b. Forms, reinforcement, and fillers shall be free from frost. Place no concrete on frozen ground.
 - c. For temperatures below 40 deg F, maintain concrete at between 60 and 80 deg F when placing, and 50 deg F minimum for five days if regular concrete, or at 50 deg F for three days if high early strength concrete, or longer if determined necessary by Engineer.
 - d. Housing, covering, or other protection shall remain in place for 24 hours after heat is discontinued.
 - 2. Hot weather concreting procedures -
 - a. Maximum concrete temperature allowed is 90 deg F in hot weather.
 - b. Cool aggregate and subgrades by sprinkling.
 - c. Avoid cement over 140 deg F.
 - d. Use cold mixing water or ice.
 - e. Use fog spray to lessen rapid evaporation from concrete surface.

PART 2 PRODUCTS

2.1 MATERIALS

A. Portland Cement - Meet requirements of ASTM C 150, Type I.

- B. Aggregates
 - 1. Coarse -
 - a. Meet requirements of ASTM C 33 or nonconforming aggregate which by test or actual service produces concrete of required strength and conforms to local governing codes.
 - b. Aggregate shall be uniformly graded as follows -
 - 1) Flat Work - Size #67 (3/4 inch to #4 or 3/4 maximum to 1/4 inch minimum).
 - 2) All Other - Size #57 (One inch maximum to 1/4 inch minimum).
 - 2. Fine - Meet requirements of ASTM C 33.
 - a. Water - Clear, apparently clean, and potable.
- D. Admixtures -
 - 1. Mineral -
 - a. Fly Ash Pozzolan - Meet requirements of ASTM C 618, Class F or C and with loss on ignition (LOI) of 3 percent maximum.
 - 2. Chemical -
 - a. No admixture shall contain calcium chloride nor shall calcium chloride be used as an admixture. All chemical admixtures used shall be from same manufacturer.
 - b. Air Entraining Agents - Meet requirements of ASTM C 260.
 - 1) Quality Standard - Daravair or Darex II AEA by W R Grace or approved equal.

2.2 MIXES

- A. Submit mix designs to meet following requirements -
 - 1. Proportions
 - a. Exterior, above, below or on grade concrete -
 - 1) Minimum weight cement per cu yd concrete - 564 lbs
 - 2) Air Entrainment (plus or minus 1-1/2 percent) - 6 percent
 - 3) Water/Cement Ratio - 0.45 maximum by weight
 - b. No water shall be added any time during mixing cycle above amount required to meet specified water/cement ratio. No reduction in the amount of cement is allowed.
 - 2. Admixtures -
 - a. No admixtures except air entrainment agents shall be allowed. Do not use any admixture without Engineer's written approval.

PART 3 EXECUTION

3.1 PREPARATION

- A. Inserts, bolts, boxes, templates, pipes, conduits, and other accessories required by these specifications and drawings shall be installed and inspected prior to placing concrete.
- B. Install inserts, bolts, boxes, templates, pipes, conduits, and other accessories furnished under other Sections to be installed as part of work of this Section. Tie anchor bolts for hold-down anchors and columns securely to reinforcing steel.
- C. Remove water and debris from space to be placed.

3.2 INSTALLATION

A. Site Tolerances

1. ACI Standards shall govern concrete work except where specified differently.
2. Variation from plumb - 1/4" maximum
3. Variation in thickness - 1/4" to 1/2" standard, 5% for footings
4. Variation in grade -
 - a. 0 to 10 feet - 1/4" standard, 1/8" for floor slabs
 - b. 10 to 20 feet - 3/8" standard, 1/4" for floor slabs
 - c. 40 feet or more - 3/4" standard, 3/8" for floor slabs
5. Variation in plan -
 - a. 0 to 20 feet - 1/2"
 - b. 40 feet or more - 3/4" standard, plus 1/2" for footings.
6. Variation in eccentricity - 2% for footings
7. Variation in openings -
 - a. Size - plus 1/8"
 - b. Location - 1/4"
8. Variation in stairs & landings -
 - a. Consecutive steps -
 - 1) Treads - 1/8"
 - 2) Risers - 1/16"
 - b. Flight of stairs -
 - 1) Treads - 1/4"
 - 2) Risers - 1/8"

B. Placing

1. Place as soon after mixing as possible. Deposit as nearly as possible in final position. Placing of concrete shall be continuous until a panel or section is complete.
2. Placing Rate - In order to avoid overloading of forms and ties, observe following rate of filling per hour for various air temperatures -

Temperature	Rate of Fill/Hour
40 deg F	2'
50 deg F	3'
60 deg F	4'
70 deg F	5'

3. Compact concrete in forms by vibrating and other means where required. Thoroughly work in concrete around reinforcing bars.
4. Do not embed aluminum in concrete.
5. Do not use contaminated, deteriorated, or retempered concrete.
6. Avoid accumulation of hardened concrete.
7. Locate construction joints where shown on Drawings to least impair strength of completed structure. Construction joints in foundation walls shall not occur within 6 feet of corner and be keyed.

C. Bonding Fresh & Hardened Concrete

1. Retighten forms.
2. Roughen surfaces.
3. Clean off foreign matter and laitance.
4. Wet but do not saturate.
5. Slush with neat cement grout.
6. Proceed with placing new concrete.

D. Special Requirements

1. Footings -
 - a. Bear 12 inches minimum into undisturbed earth or on mechanically compacted engineered fill. Step footings at ratio of 1-1/2 horizontal to One vertical unless detailed otherwise.
 - b. Level top of finish footing and leave rough.
 - c. Where joints are required, bulkhead, key horizontally, and dowel with two #5 rebars, 4 feet long.
2. Foundations & Walls - Leave steel projecting where required for floor tie.
3. Exterior Slabs -
 - a. Dusting with cement not permitted.
 - b. For continuous placing and where shown on Drawings, saw cut one inch deep control joints before shrinkage occurs.
4. Equipment Bases - Coordinate with appropriate Sections for locations and dimensions.
5. Anchor Bolts - Place anchor bolts not tied to reinforcing steel immediately following leveling of concrete. Reconsolidate concrete around bolt immediately after placing bolt. Do not disturb bolts during finishing process.

E. Finishing

1. Rubbed Finish, Exposed Vertical Surfaces -
 - a. Immediately after removing forms, remove joints, marks, bellies, projections, loose materials, and cut back metal ties from surfaces to be exposed.
 - b. Point up voids with cement mortar, 1:2 mix, and rub exposed surface with carborundum to smooth, even surface.
2. Steel Trowel Finishes, Interior Flatwork -
 - a. Float and steel trowel interior slabs after concrete has set enough to avoid bringing water and fines to surface.
 - b. If power troweling is used, get approval of finish from Engineer.
3. Broom Finishes, Exterior Flatwork, Stairs, & Ramps -

- a. Broom finish exterior slabs.
 - b. Round edges including edges formed by expansion joints.
 - c. Remove edger marks.
- F. Curing
- 1. Keep concrete moist seven days minimum for regular concrete. Do not use concrete curing compounds without Engineer's written approval. Curing compounds shall not be used to replace moist curing unless accepted by Engineer.

3.3 FIELD QUALITY CONTROL

- A. Inspection
 - 1. To allow Engineer's verification of grades, notify Engineer seven days minimum prior to placing foundation walls and building slabs.

3.4 PROTECTION

- A. Protect concrete which has not received its initial set from precipitation to avoid excess water in mix and unsatisfactory surface finish.

END OF SECTION

SECTION 05031

PRIMING

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Quality of priming applied to steel as described in Contract Documents.
- B. Related Sections
 - 1. Division 09 - Finish painting

PART 2 PRODUCTS

2.1 MATERIALS

- A. Primer
 - 1. On Plain Iron Or Steel - Conform to Fed Spec TT-P-645A except primer on unexposed surfaces may be fabricator's standard shop coat.
 - 2. Repair Of Welded Areas Or Damaged Areas On Galvanized Metal -
 - a. Approved Manufacturers -
 - 1) Galvax by Alvin Products Inc, Worcester, MA (508) 754-8604 or approved equal
 - 2) ZRC Cold Galvanizing Compound by ZRC Chemical Products Co, Quincy, MA (617) 328-6700 or approved equal

PART 3 EXECUTION

3.1 APPLICATION

- A. Except where encased in concrete, thoroughly clean metal and give one prime coat of specified material, well-worked into metal joints and open spaces.
 - 1. Do not apply primer at temperatures below 45 deg F.
 - 2. Protect machine-finished surfaces against corrosion.
 - 3. Clean welds, grind serious abrasions, and apply field primer or zinc-rich coating as required.

END OF SECTION

SECTION 05057

WELDING

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Criteria for metal-to-metal connections to be welded.
- B. Related Sections
 - 1. Performance of welding specified under Section concerned.

1.2 QUALITY ASSURANCE

- A. Certifications - Maintain welder's certifications on job-site.

PART 2 PRODUCTS

2.1 MANUFACTURED UNITS

- A. Arc-Welding Electrodes - Type E70XX AWS Iron and Steel Arc-welding electrodes and meeting current AISC Specifications.

PART 3 EXECUTION

3.1 PERFORMANCE

- A. Welding shall meet requirements of
 - 1. AWS D1.1-80 Structural Welding Code - Steel Gas
 - 2. AWS D1.3-78 Specifications for welding sheet steel in structures.
- B. Minimum weld sizes, unless detailed otherwise
 - 1. Weld pipe columns to base plates and top plates with 1/4 inch fillet weld all around.
 - 2. Weld glu-lam connection side plates to base plates with 1/4 inch fillet weld all along outside edges.
 - 3. Weld stiffeners to pipe columns with 1/4 inch fillet weld all around.

END OF SECTION

SECTION 05311
STEEL FLOOR DECK

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install floor forming for slabs as described in Contract Documents including cover plates and closure angles.

1.2 REFERENCES

- A. American Society For Testing And Materials
 - 1. ASTM A 446-89, "Specification for Sheet Steel, Zinc Coated (Galvanized) by the Hot-Dip Process, Structural (Physical Quality)"

PART 2 PRODUCTS

2.1 MATERIALS

- A. Floor Forming
 - 1. 10 gauge corrugated, cold reduced steel sheets meeting requirements of ASTM A 446, Grade A G90.
 - 2. Approved Manufacturers -
 - a. Manufacturers who can certify conformance to specified standards are approved.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Floor Forming
 - 1. Minimum End Bearing - 2 inches.
 - 2. Minimum Side Lap - One corrugation.

END OF SECTION

SECTION 05521
HANDRAILS & RAILINGS

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install handrails as described in Contract Documents.
 - a. Type One -
 - 1) Exterior handrails
 - 2) Handrail to second floor
- B. Related Sections
 - 1. Division 09 - Finish Painting

1.2 REFERENCES

- A. American Society For Testing And Materials
 - 1. ASTM A 53-90a, "Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless"
 - 2. ASTM A 501-89, "Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing"

PART 2 PRODUCTS

2.1 MATERIALS

- A. Type One Handrail
 - 1. Handrails & Balusters - 2 inch outside diameter galvanized steel pipe, meeting requirements of ASTM A 53 or galvanized steel tubing meeting requirements of ASTM A 501.
 - 2. Pipe Sleeves - 2 1/2" inch diameter by 6 to 9 inches long galvanized steel pipe, meeting requirements of ASTM A 53 or galvanized steel tubing meeting requirements of ASTM A 501.
- B. Rail Setting Grout
 - 1. Approved Manufacturers -
 - a. Super Por-Rok by Hallemite, Div of Minwax, Montvale, NJ (800) 526-0495 or approved equal
 - b. Equal as approved by Engineer before bidding.
- D. Accessories - Supply necessary wall brackets and mounting hardware compatible with railing material to provide secure installation.

2.2 FABRICATION

- A. Grind smooth welded joints and buff welds to same appearance as remainder of railing.
- B. Return pipe ends of wall mounted handrails into wall.
- C. Cap pipe ends of floor/ground mounted handrails and exterior handrails.
- D. After fabrication, shop prime metal to be painted.

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 06210

DOOR & FRAME INSTALLATION

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnish and install sealants for calking door frames at masonry walls as described in Contract Documents.
- B. Products Installed But Not Supplied Under This Section
 - 1. Hollow metal door frames
- C. Related Sections
 - 1. Division 08 - Furnishing of doors and frames

1.2 SUBMITTALS

- A. Not Used.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements - Fire door installations shall meet code requirements.

1.4 DELIVERY, STORAGE, & HANDLING

- A. Not Used

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 INSTALLATION

- A. Doors
 - 1. General -
 - a. When Project is completed, doors shall not bind, stick, or be mounted so as to cause future hardware difficulties.
 - b. Do not impair utility or structural strength of door in fitting of door, applying hardware, or cutting and altering door louvers, panels, or other special details.
 - c. Read Hardware Manufacturer's instructions prior to mounting hardware and follow as closely as possible.
 - d. Mount closers on stop side of door (Parallel Arm) where possible.
- B. Hollow Metal Frames
 - 1. Site Tolerances -
 - a. Squareness - 1/16 inch from top edge to opposite top edge.
 - b. Plumbness - 1/16 inch from top of jamb to bottom of jamb.
 - c. Alignment - 1/16 inch from plane of left side face of jamb to right side face of jamb.
 - d. Twist - 1/16 inch across throat of jamb plane measured across each face to plane of opposite jamb throat.
 - e. Finished Clearance Between Door & Frame -
 - 1) 1/16 inch at head and hinge jamb plus 1/16 maximum
 - 2) 1/8 inch at strike jamb plus or minus 1/16 inch maximum.
 - 3) 1/2 inch to top of finished floor surface or 1/4 inch to top of threshold, plus or minus 1/16 inch maximum.
 - 2. Set frame in location and level head.
 - 3. Equalize with adjustable floor anchor.
 - 4. Set spreaders and fasten jambs to floor and wall.
 - a. Wood spreaders shall be square, fabricated from lumber one inch minimum thick, be same length as door opening at header, and same depth as frame depth.
 - b. Cut notches for frame stops.
 - c. Do not remove spreaders until frames are permanently anchored in wall.
 - d. Use one spreader at base of frame and another at strike level.
 - e. Do not use temporary spreaders welded to base of jambs during installation of frame.
 - 5. Install four anchors minimum per jamb. Locate anchors at centerline of hinges and at base of jamb.
 - 6. Fill gap between frame and framing with urethane foam or fiberglass insulation. If urethane foam is used, coat interior of frames with foam prior to installing frame. Trim excess before installation of frame.

END OF SECTION

SECTION 08111
STANDARD STEEL DOORS

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Furnishing and installing metal vent grilles in doors.
- B. Products Supplied But Not Installed Under This Section
 - 1. Hollow metal doors
 - 2. Hollow metal fire doors
- C. Related Sections
 - 1. Division 06 - Door installation

PART 2 PRODUCTS

2.1 MANUFACTURED UNITS

- A. Doors
 - 1. Commercial Metal Door and Frame.
 - 2. Finish -
 - a. Use either of following systems -
 - 1) Before assembly, clean metal according to Fed Spec TT-C-490b, then prime surfaces with one shop coat. After assembly, apply one baked-on primary coat.
 - 2) Galvanize
- 3. Insulation - Exterior doors to conditioned spaces to have thermal rating equal to or better than solid core wood door.
- 4. Construction -
 - a. Mortise and reinforce doors for hinges and locks.
 - b. Reinforce doors for closers and other surface applied hardware.
 - c. Drill and tap on job.
 - d. Seams along vertical edges of door need not be filled.
 - e. Do not extend hinge cut out full width of door unless fill strip is inserted, weld filled, and ground smooth so no seam appears on back face plate.
- f. Double doors shall have overlapping rolled steel astragal.

2.2 APPROVED MANUFACTURERS

- A. Any current member of Steel Door Institute.

2.3 SOURCE QUALITY CONTROL

- A. Verification of Performance - Label each door as conforming to above required standards.

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 08119
STANDARD STEEL FRAMES

PART 1 GENERAL

1.1 SUMMARY

- A. Products Supplied But Not Installed Under This Section
 - 1. Hollow metal frames
- B. Related Sections
 - 1. Division 06 - Installation

PART 2 PRODUCTS

2.1 MANUFACTURED UNITS

- A. Frames
 - 1. 16 gauge cold rolled furniture steel.
 - 2. Provide labeled frame to match fire rating of door.
 - 3. Finish -
 - a. Use one of following systems -
 - 1) Prime surfaces with rust inhibiting primer.
 - 2) Galvanize.
 - 4. Anchors -
 - a. 14 US gauge meeting UL or other code acceptable requirements for door rating involved.
- b.Type used shall not interfere with vertical reinforcing steel.

2.2 FABRICATION

- A. General Requirements
 - 1. Provide frame form as detailed.
- 2. Frames shall be knock down or welded units at Contractor's option. Provide temporary spreader on each welded frame.
 - 3. Provide Manufacturer's gauge label for each item.
- B. Make breaks, arrises, and angles uniform, straight, and true. Accurately fit corners.
- C. Provide mortar guards at strikes and hinges.
- D. Provide six jamb anchors and two floor anchors minimum per frame for frames installed prior to walls. Frames installed after walls are constructed shall have eight jamb anchors minimum with each frame leg being anchored near bottom of frame. Anchors shall meet wall conditions.

2.3 APPROVED MANUFACTURERS

- A. Any current member of the Steel Door Institute.
- B. Atlanta Metal Products, Long Island, NY
- C. Forderer Hollow Metal Products, San Francisco, CA
- D. Stiles Custom Metal, Ceres, CA
- E. Approved Equal

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 09901

GENERAL PAINTING REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Finishing elements of the stairs and stairwells as shown on the drawings.
- B. Related Sections
 - 1. Division 05 - Shop priming of steel & iron

1.2 SUBMITTALS

- A. Product Data
 - 1. Submit Manufacturer's literature marked to indicated primer and finish coat products to be used. Provide Manufacturer's cut sheets for each primer and finish coat which indicate paint components and percentages.
 - 2. Maintenance instructions
 - 3. Maintain copy of submission on Project site.
- C. Samples - Provide paint card for each color and for each paint system. Card to show each component of system as well as total system.

1.3 QUALITY ASSURANCE

- A. Field Samples
 - 1. Before application of any paint system, if required by Owner, meet on Project site with Owner's representative. Owner's Representative may select one surface for application of each paint system specified.
 - 2. Apply paint systems to surfaces indicated by Engineer 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.
- B. Pre-Installation Meeting
 - 1. Not Used.

1.4 DELIVERY, STORAGE, & HANDLING

- A. Deliver specified products in original containers with labels intact on each container. Deliver amount of material indicated on submittal for Project in single shipment.
- B. Store materials in single place.
- C. Keep storage area clean and rectify any damage to area at completion of work of this Section.

1.5 PROJECT/SITE CONDITIONS

- A. Environmental Conditions
 - 1. Maintain temperature of paint storage area at 55 deg F minimum.
 - 2. Perform painting operations at temperature conditions recommended by Manufacturer for each operation.

1.6 SCHEDULING

- A. Coordinate with other Sections for work that requires painting prior to installation.
- B. Examine Contract Documents for painting requirements of other trades. Become familiar with their painting provisions and the painting of finish surfaces left unfinished by the requirements of other Sections.

1.7 MAINTENANCE

- A. Extra Materials - If requested by Engineer, provide one quart of each finish coat material in Manufacturer's original container in each color used. Provide one pint of each primer and of each undercoat in each color used. Label each can with color name and mixture instructions.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Linseed oil, shellac, turpentine, and other painting materials shall be pure, of highest quality, and bear identifying labels on containers.

- B. Paint compositions shall not only meet specified requirements but also contain sufficient miscellaneous components to promote proper drying and performance during and after application.

2.2 APPROVED MANUFACTURERS

- A. Benjamin Moore, Montvale, NJ (800) 445-3671
- B. Devco & Reynolds, Louisville, KY (800) 654-2616
- C. Fuller O'Brien, South San Francisco, CA (800) 546-1112 ext 3128
- D. Guardsman, Seattle, WA (800) 325-3904
- E. Lilly, Indianapolis, IN (317) 687-6705
- F. Pittsburgh Paints, Pittsburgh, PA (800) 441-9695
- G. Pratt & Lambert, Marysville, CA (800) 289-7728
- H. Sherwin-Williams, Cleveland, OH (800) 321-8194
- I. United Gilsonite Laboratories, Scranton, PA (717) 344-1202
- J. Wm. Zinsser & Co, Somerset, NJ (908) 469-8100
- K. Approved Equal.

PART 3 EXECUTION

3.1 ACCEPTABLE APPLICATORS

- A. Applicator shall have experience in application of specified products for five years minimum and be acceptable to owner.

3.2 PREPARATION

- A. Protection
 1. Remove all oily rags and waste from building each night. Take every precaution to avoid danger of fire.
 2. Protect 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. Surfaces to be painted shall be clean and free of loose dirt. Clean and dust surfaces before painting or finishing.
 2. 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.
 3. Wash metal surfaces with mineral spirits to remove dirt and grease before applying materials. Where rust or scale is present, use wire brush or sandpaper to clean before painting. Clean shop coats of paint that have become marred and touch up with proper type primer.
 4. Treat galvanized metal and zinc surfaces as specified and in accordance with Manufacturer's directions before applying first paint coat.
 5. Fill holes and cracks in surfaces to receive paint or stain.

3.3 APPLICATION

- A. Carefully follow Specifications and color schedule, painting complete all surfaces to be painted.
- B. Tint priming coat and undercoat to approximate shade of final coat, but with enough difference so it is possible to check application of specified number of coats.
- C. Spread materials smoothly and evenly.
- D. Touch up suction spots after application of first coat.
- E. Paint shall be thoroughly dry and surfaces clean before applying succeeding coats.
- F. Use fine sandpaper between coats as necessary to produce even, smooth surfaces.
- G. Make edges of paint adjoining other materials or colors clean, sharp, and without overlapping.
- H. Finished work shall be uniform, of approved color, smooth, and free from runs, sags, defective brushing, rolling, clogging, and excessive flooding.

3.4 ADJUSTMENT

- A. At completion of Project, touch up work to match specified finish. Repaint areas damaged during construction with specified finish at no additional cost to Owner.

3.5 CLEANING

- A. Do not discard paint containers without owner's written approval to allow count to determine if paint delivered was applied.
- B. Upon completion of work of this 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 this Section from premises.

END OF SECTION

SECTION 09912

PAINT ON EXTERIOR PLAIN IRON & STEEL

PART 1 GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To
 - 1. Preparing and painting new exterior plain iron and steel surfaces as described in Contract Documents.
- 2. Preparing and painting following existing exterior painted plain iron and steel surfaces as described in Contract Documents -
 - B. Related Sections
 - 1. Section 09901 - General Painting Requirements

1.2 SYSTEM DESCRIPTION

- A. Design Criteria - Systems specified are in addition to prime coats provided by other Sections.

PART 2 PRODUCTS

2.1 APPROVED MANUFACTURERS

A. Benjamin Moore

- 1. First Coat - Ironclad Retard-X Rust Inhibitive Latex Primer 162
- 2. Second & Third Coats - Moorlife Latex House Paint 105

B. Devoe

- 1. First Coat - 41702 Metalclad Acrylic Primer
- 2. Second & Third Coats - 15XX Exterior Acrylic Flat

C. Fuller O'Brien

- 1. First Coat - 621-05 Blox-Rust Latex Metal Primer
- 2. Second & Third Coats - 668-XX Weather King II Acrylic House Paint

D. Pittsburgh Paints

- 1. First Coat - 90-712 PittTech Inhibitive Primer
- 2. Second & Third Coats - 72-Line Sunproof Flat or 71-Line Metal Siding Refinish

E. Sherwin-Williams

- 1. First Coat - DTM Primer/Finish, B66W1
- 2. Second & Third Coats - A-100 Acrylic Latex Flat Exterior Finish.

A. Benjamin Moore

- 1. First Coat - Ironclad Retard-X Rust Inhibitive Latex Primer 162
- 2. Second & Third Coats - Impervex Latex High Gloss Enamel 309

B. Devoe

- 1. First Coat - 8502 Mirrolac Primer
- 2. Second & Third Coats - 83XX Mirrolac Waterborne Semi-Gloss Enamel or 84XX Mirrolac Waterborne Gloss Enamel

C. Fuller O'Brien

- 1. First Coat - 621-05 Blox-Rust Latex Metal Primer
- 2. Second & Third Coats - 615-XX Versaflex Acrylic Gloss Enamel or 664-XX Weather King House & Trim Paint

D. Pittsburgh Paints

- 1. First Coat - 90-712 PittTech Inhibitive Primer
- 2. Second & Third Coats - 90-474 PittTech Satin DTM or 90-374 PittTech Gloss DTM

E. Sherwin-Williams

- 1. First Coat - DTM Primer/Finish, B66W1
- 2. Second & Third Coats - Metalatex Semi-Gloss

A. Benjamin Moore

- 1. First Coat - Ironclad Retardo Rust Inhibitive Paint 163
- 2. Second & Third Coats - Moorlife Latex House Paint 105

B. Devoe

- 1. First Coat - 13101 Rust Penetrating Primer
- 2. Second & Third Coats - 15XX Exterior Acrylic Primer

C. Fuller O'Brien

1. First Coat - 621-04 Blox-Rust Alkyd Metal Primer
 2. Second & Third Coats - 668-XX Weather King Latex House Paint
- D. Pittsburgh Paints
1. First Coat - 6-212 SpeedHide Rust Inhibitive Primer
 2. Second & Third Coats - 72-Line Sunproof Flat or 71-Line Metal Siding Refinish
- E. Pratt & Lambert
1. First Coat - Effecto Rust Inhibiting Primer
 2. Second & Third Coats - Vapex House Paint
- F. Sherwin-Williams
1. First Coat - Kem Kromik Metal Primer
 2. Second & Third Coats - A-100 Acrylic Latex Flat Exterior Finish.
- A. Benjamin Moore
1. First Coat - Ironclad Retardo Rust Inhibitive Paint 163
 2. Second & Third Coats - Impervo Enamel 133
- B. Devoe
1. First Coat - 8502 Mirrolac Primer
 2. Second & Third Coats - 83XX Mirrolac Waterborne Semi-Gloss Enamel or 84XX Mirrolac Waterborne Gloss Enamel
- C. Fuller O'Brien
1. First Coat - 621-05 Blox-Rust Alkyd Metal Primer
 2. Second & Third Coats - 615-XX Versaflex Acrylic Gloss Enamel or 664-XX Weather King House & Trim Paint
- D. Pittsburgh Paints
1. First Coat - 6-208 SpeedHide Rust Inhibitive Primer
 2. Second & Third Coats - 90-474 PittTech Satin DTM or 90-374 PittTech Gloss DTM
- E. Pratt & Lambert
1. First Coat - Effecto Rust Inhibiting Primer
 2. Second & Third Coats - Effecto Enamel
- F. Sherwin-Williams
1. First Coat - Kem Kromik Metal Primer
 2. Second & Third Coats - Metalatex Semi-Gloss
- G. Approved Equal

PART 3 EXECUTION

3.1 APPLICATION

- A. New Work - See appropriate paragraphs of Section 09901.
- B. Existing Work
1. Sandblast area and Scrape area with wire brush followed by sanding surfaces with medium grit sandpaper as needed to remove all dirt, rust and paint.
 2. Clean surface with thinner or turpentine.
 3. Spot prime bare surfaces followed by a prime coat.
 4. Lightly sand entire surface.
 5. Clean surface with soft cloth dampened with thinner.
 6. Apply two coats of paint.

END OF SECTION

SECTION 09913

PAINT ON EXTERIOR GALVANIZED IRON

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 -
- B. Related Sections
 - 1. Section 09901 - General Painting Requirements

PART 2 PRODUCTS

2.1 APPROVED MANUFACTURERS

- A. Benjamin Moore
 - 1. First Coat - Ironclad Galvanized Metal Primer 155
 - 2. Second & Third Coats - Moorlife Latex House Paint 105
- B. Devoe
 - 1. First Coat - 8502 Mirrolac Primer
 - 2. Second & Third Coats - 15XX Exterior Acrylic Flat
- C. Fuller O'Brien
 - 1. First Coat - 668-50 Weather King II Exterior Primer & Stain Blocker
 - 2. Second & Third Coats - 668-XX Weather King II Acrylic House Paint
- D. Pittsburgh Paints
 - 1. First Coat - 90-712 PittTech Inhibitive Primer
 - 2. Second & Third Coats - 72-Line Sunproof Flat or 71-Line Metal Siding Refinish
- E. Sherwin-Williams
 - 1. First Coat - DTM Primer/Finish B66W1
 - 2. Second & Third Coats - A-100 Latex Flat Exterior, A6 Series
- A. Benjamin Moore
 - 1. First Coat - IronClad Galvanized Metal Primer 155
 - 2. Second Coat - Impervex Latex High Gloss Enamel 309
- B. Devoe
 - 1. First Coat - 8502 Mirrolac Primer
 - 2. Second & Third Coats - 83XX Mirrolac Water-Borne Semi-Gloss Enamel or 84XX Mirrolac Water-Borne Gloss Enamel
- C. Fuller O'Brien
 - 1. First Coat - 668-50 Weather King II Exterior Primer & Stain Blocker
 - 2. Second Coat - 615-XX Versaflex Acrylic Gloss Enamel
 - 3. Third Coat - 664-XX Weather King House & Trim Paint
- D. Pittsburgh Paints
 - 1. First Coat - 90-712 PittTech Inhibitive Primer
 - 2. Second & Third Coats - 90-474 PittTech Satin DTM or 90-374 PittTech Gloss DTM
- E. Sherwin-Williams
 - 1. First Coat - DTM Primer/Finish B66W1
 - 2. Second & Third Coats - A-100 Gloss Latex, A8 Series
- A. Benjamin Moore
 - 1. First Coat - Ironclad Galvanized Metal Primer 155
 - 2. Second & Third Coats - Moorlife Latex House Paint 105
- B. Devoe
 - 1. First Coat - 8502 Mirrolac Primer
 - 2. Second & Third Coats - 15XX Exterior Acrylic Flat
- C. Fuller O'Brien
 - 1. First Coat - 668-50 Weather King II Exterior Primer & Stain Blocker
 - 2. Second & Third Coats - 668-XX Weather King II Acrylic House Paint
- D. Pittsburgh Paints

1. First Coat - 6-212 SpeedHide Rust Inhibitive Primer
 2. Second & Third Coats - 72-Line Sunproof Flat or 71-Line Metal Siding Refinish
- E. Pratt & Lambert
1. First Coat - Galvanized Metal Latex Primer
 2. Second & Third Coats - Vapex House Paint
- F. Sherwin-Williams
1. First Coat - Galvite Primer, B50W3
 2. Second & Third Coats - A-100 Latex Flat Exterior, A6 Series
- A. Benjamin Moore
1. First Coat - IronClad Galvanized Metal Primer 155
 2. Second & Third Coats - Impervo Enamel 133
- B. Devoe
1. First Coat - 8502 Mirrolac Primer
 2. Second & Third Coats - 83XX Mirrolac Water-Borne Semi-Gloss Enamel or 84XX Mirrolac Water-Borne Gloss Enamel
- C. Fuller O'Brien
1. First Coat - 668-50 Weather King II Exterior Primer & Stain Blocker
 2. Second Coat - 615-XX Versaflex Acrylic Gloss Enamel
 3. Third Coat - 664-XX Weather King House & Trim Paint
- D. Pittsburgh Paints
1. First Coat - 6-208 SpeedHide Rust Inhibitive Primer
 2. Second & Third Coats - 90-474 PittTech Satin DTM or 90-374 PittTech Gloss DTM
- E. Pratt & Lambert
1. First Coat - Galvanized Metal Latex Primer
 2. Second & Third Coats - Effecto Enamel
- F. Sherwin-Williams
1. First Coat - Galvite Primer, B50W3
 2. Second & Third Coats - A-100 Gloss Latex, A8 Series
- G. Approved Equal

PART 3 EXECUTION

3.1 APPLICATION

- A. New Work
1. See applicable paragraphs of Section 09901.
 2. Treat galvanized metal and zinc surfaces before applying first coat of paint.
 3. Prime surface.
 4. Apply finish coats.
- B. Existing Work
1. Sandblast area and Scrape and sand with wire brush and sand with medium sandpaper as required to remove all rust, dirt and paint.
 2. Clean with soft cloth dampened with thinner.
 3. Prime surface.
 4. Apply finish coats.

END OF SECTION