



STATE OF UTAH - DEPARTMENT OF ADMINISTRATIVE SERVICES

Division of Facilities Construction and Management

DFCM

**STANDARD LOW BID PROJECT – INVITATIONAL
Project Budgets \$50,000 - \$100,000**

June 5, 2008

**WASHBURN BUILDING EXTERIOR
DOOR REPLACEMENT**

SNOW COLLEGE – SOUTH

RICHFIELD, UTAH

DFCM Project Number: 07160700

Sunrise Engineering
25 East 500 North
Fillmore, Utah 84631

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

DFCM Supplemental General Conditions dated May 5, 2008
DFCM General Conditions dated May 25, 2005.
DFCM Application and Certification for Payment dated May 25, 2005.

Technical Specifications: attached and dated March 11, 2008
Drawings: attached and dated March 11, 2008

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

INVITATION TO BID

Only firms that have been invited to submit bids on this project are allowed to bid on this project.

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

WASHBRUN BUILDING EXTERIOR DOOR REPLACEMENT
SNOW COLLEGE – EPHRAIM, UTAH
DFCM PROJECT NO: 07160700

<u>Company</u>	<u>Contact</u>	<u>Phone</u>	<u>Fax</u>
Busk, Inc.	Dan Busk	435-896-9231	435-896-9232
MSMM General Engineering, Inc.	Stan Burgstrom	435-590-4618	435-865-6770
B J Construction	Anthony Hutchins	435-253-1123	435-743-8007

Bids will be in accordance with the Contract Documents that will be available on **Thursday, June 5, 2008**, and distributed in electronic format only on CDs from DFCM, 4110 State Office Building, Salt Lake City, Utah and on the DFCM web page at <http://dfcm.utah.gov>. For questions regarding this project, please contact Jeff Reddoor, DFCM, at 801-971-9830. No others are to be contacted regarding this bidding process. The construction estimate for this project is **\$96,000.00**.

A **mandatory** pre-bid meeting will be held at **11:00 AM on Thursday, June 12, 2008** at Snow South Washburn Building North Entrance, Richfield, Utah, Sevier County. All bidders wishing to bid on this project are required to attend this meeting.

Bids will be received until the hour of **10:00 AM on June 18, 2008** 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

Joanna Reese, Contract Coordinator
4110 State Office Building, Salt Lake City, Utah 84114

PROJECT DESCRIPTION

Remove and replace four (4) storefront door systems at the Washburn Building, Snow South College, Richfield, Utah.

**PROJECT SCHEDULE**

PROJECT NAME: Washburn Building Exterior Door Replacement Snow College – South – Richfield, Utah DFCM PROJECT NO. 07160700				
Event	Day	Date	Time	Place
Bidding Documents Available	Thursday	June 5, 2008	10:00 AM	DFCM 4110 State Office Bldg SLC, UT and the DFCM web site *
Mandatory Pre-bid Site Meeting	Thursday	June 12, 2008	11:00 AM	Snow South Richfield Washburn Building, North Entrance
Last Day to Submit Questions	Monday	June 16, 2008	2:00 PM	Jeff Reddoor – DFCM E-mail: jreddoor@utah.gov Fax 801-538-3267
Addendum Deadline (exception for bid delays)	Tuesday	June 17, 2008	2:00 PM	DFCM web site *
Prime Contractors Turn In Bid and Bid Bond	Wednesday	June 18, 2008	10:00 AM	DFCM 4110 State Office Bldg SLC, UT
Sub-contractor List Due	Thursday	June 19, 2008	10:00 AM	DFCM 4110 State Office Bldg SLC, UT Fax 801-538-3677
Substantial Completion Date	Monday	September 15, 2008	5:00 PM	

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



BID FORM

NAME OF BIDDER _____ DATE _____

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

The undersigned, responsive to the "Notice to Contractors" and in accordance with the "Instructions to Bidders", in compliance with your invitation for bids for the Washburn Building Exterior Door Replacement – Snow College South – Richfield, Utah – DFCM Project No. 07160700 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: _____

Base Bid will be for two (2) complete door systems:

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)

Additive Alternate No. 1 – 3rd Door System:

_____ DOLLARS (\$_____)

(In case of discrepancy, written amount shall govern)

Additive Alternate No. 2 – 4th Door System:

_____ DOLLARS (\$_____)

(In case of discrepancy, written amount shall govern)

I/We guarantee that the Work will be Substantially Complete by September 15, 2008, 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 _____

BID FORM

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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.



Division of Facilities Construction and

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, based on the following:

DOLLAR AMOUNTS FOR LISTING

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

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

LICENSURE:

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

'SPECIAL EXCEPTION':

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

GROUNDS FOR DISQUALIFICATION:

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

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

CHANGES OF SUBCONTRACTORS SPECIFICALLY IDENTIFIED ON SUBLIST FORM:

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

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

EXAMPLE:

Example of a list where there are only four subcontractors:

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

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

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



SUBCONTRACTORS LIST
FAX TO 801-538-3677

PROJECT TITLE: _____

Caution: You must read and comply fully with instructions.

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

We certify that:

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

FIRM: _____

DATE: _____

SIGNED BY: _____

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

CONTRACTOR'S AGREEMENT

FOR:

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

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

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

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

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

The DFCM General Conditions ("General Conditions") dated May 25, 2005 and Supplemental General Conditions dated May 5, 2008 ("also referred to as General Conditions") 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
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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.

PERFORMANCE BOND

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

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

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

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

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

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

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

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

WITNESS OR ATTESTATION:

PRINCIPAL:

By: _____ (Seal)

Title: _____

WITNESS OR ATTESTATION:

SURETY:

By: _____ (Seal)

Attorney-in-Fact

STATE OF _____)
) ss.
COUNTY OF _____)

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

Subscribed and sworn to before me this _____ day of _____, 20____.

My commission expires: _____

Resides at: _____

NOTARY PUBLIC

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

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

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
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Additional Comments:

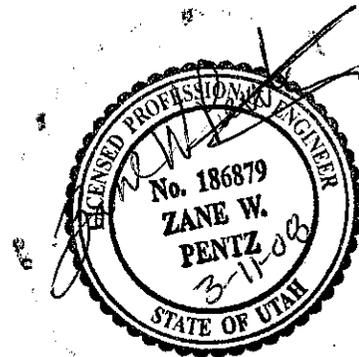
**CONTRACT
SPECIFICATIONS**
for the
**Snow College Richfield
Washburn Building Exterior Doors**
PROJECT NO. 07160700

OWNER

**STATE OF UTAH
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT**

Prepared by:

**Sunrise Engineering, Inc.
25 East 500 North
Fillmore, Utah 84631
Tel: (435) 743-6151
Fax: (435) 743-7900**



**Zane W Pentz, P.E.
State of Utah,
Principal Engineer
Date: March 11, 2008**

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CONTRACT GENERAL INFORMATION

PROJECT SUMMARY

PROJECT LOCATION

Snow College Richfield, Utah Campus
Washburn Building

STOREFRONT REMOVAL AND REPLACEMENT SCHEDULE

Location	Storefront Entrance ** Width / Height	Storefront Vestibule ** Width / Height	Entrance Doors	Vestibule Doors
North Entrance*	12 ft / 9 ft	12 ft / 9 ft	Double 42 inch with mullion	Double 36 inch
South Entrance*	12 ft / 9 ft	12 ft / 9 ft	Double 42 inch with mullion	Double 36 inch
West North Entrance*	10 ft / 9 ft	10 ft / 9 ft	Double 42 inch with mullion	Double 36 inch
West South Entrance*	12 ft / 14 ft	12 ft / 14 ft	Double 42 inch with removable mullion	Double 36 inch

*Note: Remove existing storefront entrances and storefront vestibules as specified.

**Note: Dimensions shown are approximate. Contractor shall measure and verify exact dimensions of storefront openings to fit the building framed entrance. Any and all extra costs to return and/or replace products with incorrect dimensions will be paid for at the Contractor's expense.

PROJECT COMPLETION DATE

June 15, 2008

CONSTRUCTION LIMITATIONS

1. PERFORM CONSTRUCTION DURING BUILDING REGULAR BUSINESS HOURS (6:00 AM TO 10:00 PM MONDAY THROUGH FRIDAY).CONSTRUCTION MAY BE PERFORMED ON SATURDAYS UPON APPROVAL FROM THE OWNER.
2. COORDINATE WORK SCHEDULE WITH FACILITIES MANAGER SAM STEED AT AT 435-893-2235 TO SCHEDULE WORK TO MINIMIZE STUDENT CLASS SCHEDULE INTERRUPTION.
3. LIMIT CONSTRUCTION ACTIVITIES TO ONE BUILDING ENTRANCE AT A TIME. REMOVE EXISTING ENTRANCE AND COMPLETE INSTALLATION OF NEW ENTRANCE AT ONE LOCATION BEFORE PROCEEDING WITH CONSTRUCTION AT ANOTHER ENTRANCE.

CONSTRUCTION NOTES

1. MATERIALS, CONSTRUCTION, AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND THE INTERNATIONAL BUILDING CODE STANDARD SPECIFICATIONS FOR COMMERCIAL CONSTRUCTION AND ADA STANDARDS FOR ACCESSIBLE DESIGN.
2. OBTAIN THE REQUIRED BUILDING PERMIT AND COORDINATE BUILDING INSPECTIONS WITH THE LOCAL BUILDING INSPECTOR.
3. SCHEDULE AND COORDINATE ALL CONSTRUCTION ACTIVITIES WITH SNOW COLLEGE FACILITIES MANAGER SAM STEED AT 435-893-2235.
4. DELIVER ALL PRODUCT MATERIAL SUBMITTALS TO SAM STEED FOR APPROVAL
5. ALL DOOR FINISH COLORS ARE TO MATCH EXISTING DOOR COLORS. COORDINATE FINAL COLOR SELECTION WITH SNOW COLLEGE FACILITIES MANAGER SAM STEED AT 435-893-2235 UPON PRODUCT COLOR SUBMITTALS.
6. FURNISH, INSTALL AND MAINTAIN REQUIRED BARRICADES, SIGNS, ETC TO PREVENT PEDESTRIAN TRAFFIC FROM ENTERING CONSTRUCTION AREA.
7. PROVIDE TEMPORARY FRAMING, CLOSURES, LOCKS, SECURITY ETC OF DOORWAYS DURING BUILDING CLOSURE TIMES. CONTRACTOR WILL BE RESPONSIBLE FOR BUILDING LOSS OR DAMAGES FROM UNAUTHORIZED PERSONNEL ENTERING ENTRANCES UNDER CONSTRUCTION DURING BUILDING CLOSURE TIMES.
8. JOB SITE VISITS BY THE OWNER DURING CONSTRUCTION ARE FOR THE PURPOSE OF OBSERVING THE WORK PERFORMED ONLY AND DO NOT CONSTITUTE ACCEPTANCE OF THE WORK.
9. VERIFY ALL CONDITIONS, DIMENSIONS AND ELEVATIONS, ETC.
10. NO SEPARATE PAYMENT WILL BE MADE FOR ANY MATERIALS, PRODUCTS OR WORK THAT IS NOT SPECIFICALLY SET FORTH IN THE CONTRACT. ALL OTHER COSTS ASSOCIATED WITH THE INTENDED STOREFRONT REPLACEMENTS SHALL BE CONSIDERED INCIDENTAL WORK AND SHALL BE INCLUDED IN THE CONSTRUCTION CONTRACT PRICE FOR THE RELATED WORK.
11. INSTALL NEW DOOR STOREFRONTS AT THE SAME LOCATION AS THE EXISTING DOOR STOREFRONTS.
12. REPAIR AND/OR RESTORE ALL FLOOR, WALL AND CEILING FINISHES DAMAGED FROM CONSTRUCTION BACK TO ORIGINAL CONDITION.
13. THE OWNER WILL PERFORM THE CONSTRUCTION MANAGEMENT OF THIS PROJECT. UPON AWARD OF THE CONSTRUCTION CONTRACT DIRECT ALL COORESPONDENCE, SUBMITTALS, ETC. TO THE FOLLOWING OWNER REPRESENTATIVE:

SAM STEED
SNOW COLLEGE RICHFIELD CAMPUS
800 WEST 200 SOUTH
RICHFIELD, UTAH 84701
435-893-2235

CONTRACT SPECIFICATIONS

DIVISION 1
GENERAL REQUIREMENTS

00700.1 DEFINITIONS

Wherever used in the Contract Documents, the following terms shall have the meanings indicated which shall be applicable to both the singular and plural thereof:

ADDENDA - Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the Contract Documents, Drawings, and Specifications, by additions, deletions, clarifications, or corrections.

AGREEMENT OR CONSTRUCTION CONTRACT AGREEMENT - The written contract between the Owner and the Contractor covering the work to be performed; other Contract Documents are attached to the Agreement and made part thereof as provided therein.

BID - The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

BIDDER - Any person, firm, or corporation submitting a bid for the Work.

BONDS - Bid, Performance, and Payment Bonds and other instruments of security, furnished by the Contractor and its surety in accordance with the Contract Documents.

CHANGE ORDER - A written order to the Contractor authorizing an addition, deletion, or revision in the Work within the general scope of the Contract Documents, or authorizing an adjustment in the Contract Price or Contract Time.

CONTRACT DOCUMENTS - The contract, including Advertisement for Bids (or notice to Contractors of Intention to Receive Bids). Instructions to Bidders, Bid, Bid Bond, Agreement, Payment Bond, Performance Bond, Notice of Award, Notice to Proceed, Change Order, Drawings, Specifications, Supplemental Instructions, Special Provisions and Addenda.

CONTRACT PRICE - The total monies payable to the Contractor under the terms and conditions of the Contract Documents.

CONTRACT TIME - The number of calendar days stated in the Contract Documents for the completion of the Work.

CONTRACTOR - The person, firm, or corporation with whom the Owner has executed the Agreement.

ENGINEER - Sunrise Engineering, Inc.

FIELD ORDER - A written order effecting a change in the Work not involving a material adjustment in the Contract Price or an extension of the Contract Time, issued by the Engineer to the Contractor during construction.

NOTICE OF AWARD - The written notice of acceptance of a bid, from the Owner to the successful Bidder, which also sets the time in which the Contract must be signed.

NOTICE TO PROCEED - Written communication issued by the Owner to the Contractor authorizing the Contractor to proceed with the Work and establishing the date of commencement and completion of the Work.

OWNER - A public or quasi-public body or authority, corporation, association, partnership, or individual for whom the Work is to be performed.

PROJECT - Synonymous with The Work, i.e., the total construction to be provided under the Contract Documents which may be the whole or a part as indicated elsewhere in the Contract Documents.

RESIDENT PROJECT REPRESENTATIVE - The authorized representative of the Owner who is assigned to the Project site or any part thereof.

SAMPLES - Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

SHOP DRAWINGS - All drawings, diagrams, illustrations, brochures, schedules, and other data which are prepared by the Contractor, subcontractor, manufacturer, supplier or distributor, which illustrate how specific portions of the Work shall be fabricated or installed.

SPECIAL PROVISIONS - A part of the Contract Documents, Additions and modifications to the Standard Specifications specifically prepared for the contract.

SPECIFICATIONS - A part of the Contract Documents consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards and workmanship.

SUBCONTRACTOR - An individual, firm or corporation having a direct contract with the Contractor or with any other subcontractor for the performance of a part of the Work at the site.

SUBSTANTIAL COMPLETION - That date as certified by the Engineer when the construction of the Work or a specified part thereof is sufficiently completed, in accordance with the Contract Documents, so that the Work or specified part can be utilized for the purposes for which it is intended.

SUPPLEMENTAL GENERAL CONDITIONS - The part of the Contract Documents which amends or supplements these General Conditions.

SUPPLIER - Any person or organization who supplies materials or equipment for the Work, including that fabricated to a special design, but who does not perform labor at the site.

WORK - Labor or work necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in the project.

WRITTEN NOTICE - Any communications to any party of the Agreement relative to any part of the Agreement prepared in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at its last given address, or delivered in person to said party or their authorized representative on the Work.

00700.2 ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS

As necessary to carry out the Work required by the Contract Documents, the Engineer may furnish additional instructions and detail drawings to the Contractor. The additional drawings and instructions thus supplied will become a part of the Contract Documents. The Contractor shall carry out the Work in accordance with the additional detail drawings and instructions.

00700.3 SCHEDULES, REPORTS, AND RECORDS

00700.3.1 SUBMITTALS

The Contractor shall submit to the Owner such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data where applicable as are required by the Contract Documents for the Work to be performed.

00700.3.2 CONSTRUCTION PROGRESS SCHEDULE

At the Pre-Construction Conference, the Contractor shall submit a construction progress schedule showing the order in which it proposes to carry on the Work, including dates at which they will start the various parts of the Work, estimated date of completion of each part and, as applicable:

- The dates at which special detail drawings will be required; and
- Respective dates for submission of Shop Drawings, the beginning of manufacture, the testing and the installation of materials, supplies, and equipment.

00700.3.3 SCHEDULE OF PAYMENTS

The Contractor shall also submit a schedule of payments that it anticipates will be earned during the course of the Work.

00700.4 DRAWINGS AND SPECIFICATIONS

00700.4.1 INTENDED PURPOSE

The intended purpose of the Drawings and Specifications is to furnish the Contractor with sufficient information and direction so that he can furnish all labor, materials, tools, equipment, and transportation necessary for the proper execution of the Work in accordance with the Contract Documents and to complete the Work in an acceptable manner, ready for use, occupancy or operation by the Owner.

00700.4.2 GOVERNANCE

In case of conflict between the Drawings and Specifications, the Specifications shall govern. Figure dimensions on Drawings shall govern over scale dimensions, and detailed Drawings shall govern over general Drawings.

00700.4.3 DISCREPANCIES

Any discrepancies found between the Drawings and Specifications and site conditions or any inconsistencies or ambiguities in the Drawings or Specifications shall be immediately reported to the Engineer, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. Work done by the Contractor after its discovery of such discrepancies, inconsistencies or ambiguities shall be done at the Contractor's risk.

00700.5 SHOP DRAWINGS**00700.5.1 SUBMITTAL**

The Contractor shall provide Shop Drawings as may be necessary for the execution of the Work as required by the Contract Documents. Portions of the Work requiring a Shop Drawing or sample submission shall not begin until the Shop Drawing or submission has been approved by the Engineer. When submitted for the Engineer's review, Shop Drawings shall bear the Contractor's certification that the Contractor has reviewed, checked and approved the Shop Drawings and that they are in conformance with the requirements of the Contract Documents.

00700.5.2 REVIEW AND APPROVAL

The Engineer shall promptly review all Shop Drawings. The Engineer's approval of any Shop Drawings shall not release the Contractor from responsibility for deviations from the Contract Documents. The approval of any Shop Drawing which substantially deviates from the requirement of the Contract Documents shall be evidenced by a Change Order. A copy of each approved Shop Drawing and each approved sample shall be kept in good order by the Contractor at the site and shall be available to the Engineer.

00700.6 MATERIALS, SERVICES AND FACILITIES**00700.6.1 PURCHASING OF MATERIALS AND SUPPLIES**

It is understood that, except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the Work within the specified time. Materials, supplies or equipment to be incorporated into the Work shall not be purchased by the Contractor or any subcontractor subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller or any third party financing entity.

00700.6.2 STORAGE OF MATERIALS AND EQUIPMENT

Materials and equipment shall be so stored as to insure the preservation of their quality and fitness for the Work. Stored materials and equipment to be incorporated in the Work shall be located so as to facilitate prompt inspection. The Contractor shall solely be responsible for making arrangements for suitable off-site storage of materials or equipment needed to accomplish the Work. Prior to using such area or facility, the Contractor shall obtain approval from the Engineer.

00700.6.3 FURNISHING AND INSTALLATION

Materials, supplies, and equipment shall be in accordance with samples submitted by the Contractor and approved by the Engineer. Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.

00700.7 INSPECTION AND TESTING

Inspection and testing of the Work shall meet the following requirements:

- All materials and equipment used in the construction of the Project shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the Contract Documents.
- The Owner shall provide all inspection and testing services not required by the Contract Documents.
- The Contractor shall provide at its expense any testing and inspection services required by the Contract Documents.
- If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any work to specifically be inspected, tested, or approved by someone other than the Contractor, the Contractor will give the Engineer timely notice of readiness. The Contractor will then furnish the Engineer the required certificates of inspection, testing, or approval.
- Inspections, tests or approvals by the Engineer or others shall not relieve the Contractor from its obligations to perform the Work in accordance with the requirements of the Contract Documents.
- The Engineer and the Engineer's representatives will at all times have access to the Work. In addition, authorized representatives and agents of any participating Federal or State agency shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records. The Contractor will provide proper facilities for such access and observation of the Work and also for any inspection, or testing thereof.
- If any work is backfilled or covered contrary to the written instructions of the Engineer it must, if requested by the Engineer, be uncovered for its observation and replaced at the Contractor's expense.
- If the Engineer considers it necessary or advisable that covered work be inspected or tested by others, the Contractor, at the Engineer's request, will uncover, expose or otherwise make available for observation, inspection or testing as the Engineer may require, that portion of the Work in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such work is defective, the Contractor will bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction. If, however, such work is not found to be defective, the Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate Change Order shall be issued.

00700.8 SUBSTITUTION OF MATERIALS

Whenever a material, article or piece of equipment is identified on the Drawings or Specifications by reference to brand name or catalogue number, it shall be understood that the reference is made for the purpose of defining the performance or other salient requirements and that other products of equal capacities, quality and function may be considered. The Contractor may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the Contract Documents by reference to brand name or catalogue number, and if, in

the opinion of the Engineer, such material, article, or piece of equipment is of equal substance and function to that specified, the Engineer may approve its substitution and use by the Contractor. Any cost reduction shall be deductible from the Contract Price and the Contract Documents shall be appropriately modified by Change Order. The Contractor warrants that if substitutes are approved, no major changes in the function or general design of the Project will result. Incidental changes or extra component parts required to accommodate the substitute will be made by the Contractor without a change in the Contract Price or Contract Time.

00700.9 PATENTS

The Contractor shall pay all applicable royalties and license fees. They shall defend all suits or claims for infringement of any patent rights and hold the Owner harmless from loss on account thereof, except that the Owner shall be responsible for any such loss when a particular process, design, or the product of a particular manufacturer or manufacturers is specified, however if the Contractor has reason to believe that the design, process or product specified is an infringement of a patent, the Contractor shall be responsible for such loss unless the Contractor promptly gives such information to the Engineer.

00700.10 PERMITS, AND REGULATIONS

00700.10.1 NOT USED

00700.10.2 NOT USED

00700.10.3 TEMPORARY PERMITS AND LICENSES

Permits and licenses of a temporary nature necessary for the execution of the Work shall be secured and paid for by the Contractor, unless otherwise stated in the Supplemental General Conditions. Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the Owner, unless otherwise specified. The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the Work as drawn and specified. If the Contractor observes that the Contract Documents are at variance therewith, it shall promptly notify the Engineer in writing, and any necessary changes shall be adjusted as provided in Subsection 00700.13, Changes in the Work.

00700.11 PROTECTION OF WORK, PROPERTY, AND PERSONS**00700.11.1 SAFETY PRECAUTIONS**

The Contractor will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work and shall comply with all OSHA, State and local

requirements. This shall include taking all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to:

- All employees on the Work and other persons who may be affected thereby,
- All the work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and
- Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

The Contractor, solely, shall be responsible for the safety, efficiency, and adequacy of its equipment, materials and methods; and for any damage which may result from their failure or improper operation and maintenance.

00700.11.2 LEGAL COMPLIANCE

The Contractor will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. The Contractor will erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for safety and protection. The Contractor will notify owners of adjacent utilities when execution of the Work may affect them. The Contractor will remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or part, by the Contractor, any Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them be liable, except damage or loss attributable to the fault of the Contract Documents or to the acts or omissions of the Owner or the Engineer or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the Contractor.

00700.11.3 EMERGENCIES

In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the Engineer or Owner, shall act to prevent threatened damage, injury or loss. The Contractor will give the Engineer prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order shall thereupon be issued covering the changes and deviations involved.

00700.11.4 LIMITED USE OF WORKSITE

Unless otherwise allowed by these Contract Documents, the Contractor's use of the Work site shall be limited to its construction operations, including on-site storage of materials, on-site fabrication facilities and field offices.

00700.12 SUPERVISION BY CONTRACTOR

00700.12.1 SUPERVISORY RESPONSIBILITIES

The Contractor will supervise and direct the Work and will be solely responsible for the means, methods, techniques, sequences, and procedures of construction. The Contractor will employ and maintain on the Work a qualified supervisor or superintendent who shall have been designated in writing by the Contractor as the Contractor's representative at the site. The supervisor shall have full authority to act on behalf of the Contractor and all communications given to the supervisor

shall be as binding as if given to the Contractor. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the Work.

00700.12.2 ACCESS TO ROADS, STREETS, UTILITIES, ETC.

The Contractor shall make its own investigation of the condition of available public roads and their clearances, restrictions and limitations which affect access to the Work and shall further be responsible for construction and maintenance of any haul road required for accomplishment of the Work. Nothing herein shall be construed to entitle the Contractor to exclusive use of any public street, alleyway, or parking area during the performance of the Work. The Contractor shall not close any public street or roadway without obtaining permission from both the Engineer and the appropriate jurisdictional authority.

The Contractor shall so conduct operations as to not interfere with the authorized work of utility companies or other entities so authorized within these areas. When excavation is performed along a public street or roadway, access to fire hydrants, appropriate erosion protection measures and passage of traffic in at least one lane shall be provided at all times by the Contractor.

00700.13 CHANGES IN THE WORK

00700.13.1 CHANGE IN SCOPE OF WORK

The Owner may at any time, as the need arises, order changes within the scope of the Work without invalidating the Agreement. If such changes increase or decrease the amount due under the Contract Documents, or affect the time required for performance of the Work, an equitable adjustment shall be authorized by Change Order.

00700.13.2 CHANGE ORDER

A Change Order will be issued to decrease or increase actual quantities used which are different than those shown in the Bid Schedule. All changes must be fully approved in writing on a Change Order before they can be included in a payment to the Contractor. The Contract Change Order form will be used to document and authorize changes to the Contract Documents unless approval to use another form is obtained from the Engineer.

00700.13.3 FIELD ORDER

The Engineer may, at any time, issue a Field Order to interpret construction plans or to document communications with the Contractor concerning details of the Work. The Contractor shall proceed with the performance of any changes in the Work so ordered by the Engineer.

If the Contractor believes that such Field Order entitles it to a change in Contract Price and/or time, it shall give the Engineer written notice thereof within seven (7) days after the receipt of the Field Order. The Contractor then shall document and submit the basis for the change in Contract Price or time within thirty (30) days.

If the Owner does not accept that a Change Order is appropriate as outlined in 13.1 and 13.2 above, written notice of this decision shall be provided to the Contractor within 30 days of the receipt of the Contractor's documentation of the change in the Contract price or time. Any dispute shall thereafter be resolved pursuant to the terms of these Contract Documents. Regardless of any dispute by and between the Contractor, Engineer and Owner, Contractor shall perform all work required by the Field Order, Change Order or other contract document contained herein.

00700.14 CHANGES AFFECTING CONTRACT PRICE**00700.14.1 CHANGE ORDER**

The Contract Price may be changed only by a Change Order. The value of any work covered by a Change Order or of any claim for increase or decrease in the Contract Price shall be determined by one or more of the following methods in the order of precedence listed below:

- Unit prices previously approved in the Contract Documents.
- An agreed lump sum price.
- The actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the Work. In addition there shall be added an amount to be agreed upon but not to exceed fifteen (15) percent of the actual cost of the Work to cover the cost of general overhead and profit.

00700.14.2 CHANGE IN QUANTITIES

The Owner reserves the right to change quantities listed in the Bid Schedule in order to revise the total Contract Price to match funding available in the Owner's budget.

00700.15 TIME FOR COMPLETION AND LIQUIDATED DAMAGES**00700.15.1 TIME FOR COMPLETION**

The date of beginning, and the time for completion, of the Work are essential conditions of the Contract Documents and the Work embraced shall be commenced on a date specified in the Notice to Proceed. The Contractor will proceed with the Work at such rate of progress as to ensure full completion within the Contract Time.

Both the Contractor and the Owner expressly understand and agree, separately and jointly, that the Contract Time for the completion of the Work described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality at the time of the Work.

00700.15.2 LIQUIDATED DAMAGES

If the Contractor shall fail to complete the Work within the Contract Time, or within any extension of time granted by the Owner, then the Contractor will pay liquidated damages to the Owner in the amount specified in the Contract for each calendar day that the Contractor is in default as stipulated in the Contract Documents.

The Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the Work is due to the following, and the Contractor has promptly given written notice of such delay to the Owner or Engineer:

- To any preference, priority or allocation order duly issued by the Owner, or
- To unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, or of the public enemy, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and abnormal and unforeseeable weather; or
- To any delays of the subcontractor occasioned by any of the causes specified in the foregoing two paragraphs.

00700.16 CORRECTION OF WORK

The Contractor shall promptly remove from the premises all work rejected by the Engineer for failure to comply with the Contract Documents, whether incorporated in the construction or not. The Contractor shall promptly replace and re-execute that work in accordance with the Contract Documents and without expense to the Owner and shall bear the expense of making good all work of other Contractors destroyed or damaged by such removal or replacement. If the Contractor does not take action to remove such rejected work within ten (10) days after receipt of written notice, the Owner may remove such work and store the materials at the expense of the Contractor. All removal and replacement work shall be done at the Contractor's expense.

00700.17 EXISTING CONDITIONS**00700.17.1 DISCOVERY OF CONDITIONS**

If, during the progress of the Work, previously known or unknown or latent physical conditions are encountered at the site which

- Differ materially from those indicated in the Contract Documents, or
- Differ materially from those ordinarily encountered and generally recognized as inherent in the Work provided for in the Contract Documents, are encountered at the site, then

the party discovering such conditions shall promptly notify the other party both verbally and in writing of the specifically differing conditions before the site is further disturbed and before the affected work is performed.

00700.17.2 OWNER INVESTIGATION

The Owner shall promptly investigate the conditions, and if found that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for, performance of the Work, an equitable adjustment shall be made and the Contract Documents shall be modified by a Change Order. Any claim of the Contractor for adjustment hereunder shall not be allowed unless the required written notice has been given; provided that the Owner may, if it determines the facts so justify, consider and adjust any such claims asserted before the date of final payment.

00700.18 SUSPENSION OF WORK AND TERMINATION OF CONTRACT**00700.18.1 SUSPENSION OF WORK BY OWNER**

At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to the Contractor and the Engineer. The notification will fix the date on which work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be allowed an adjustment in the Contract Price or an extension of the Contract Time, or both, directly attributable to any such suspension if Contractor makes a claim therefor as provided in Subsection 00700.30.

00700.18.2 TERMINATION OF CONTRACT FOR CAUSE BY OWNER**00700.18.2.1 GROUNDS FOR TERMINATION - The Owner may terminate the contract for cause as a result of the occurrence of any one or more of the following circumstances:**

- Contractor's persistent failure to perform the Work in accordance with the Contract Documents including, but not limited to, failure to supply sufficiently skilled workers or suitable materials or equipment or failure to adhere to the progress and payment schedule established under Subsection 00700.3.3.
- Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
- Contractor's disregard of the authority of Engineer; or
- Contractor's violation in any substantial way of any provisions of the Contract Documents.

00700.18.2.2 ASSUMPTION OF WORKSITE BY OWNER - If one or more of the events described in the foregoing list occur, Owner may, after giving Contractor (and the surety, if any) seven days written notice, terminate the services of Contractor, exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment and machinery at the Site and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion), incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and finish the Work as Owner may deem expedient.

00700.18.2.3 NO FURTHER PAYMENT TO CONTRACTOR - In such case, Contractor shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses and damages (including, but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. The Engineer shall review such claims, costs, losses and damages incurred by Owner for reasonableness and, when approved by the Engineer, they shall be incorporated into the Contract as a Change Order. When exercising any rights or remedies under this paragraph Owner shall not be required to obtain the lowest price for the work performed.

00700.18.2.4 FURTHER RECOURSE AGAINST CONTRACTOR - Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of monies due Contractor by Owner will not release Contractor from liability.

00700.18.3 TERMINATION OF CONTRACT FOR CONVENIENCE

The Owner, for his/her convenience, and without cause and without prejudice to any other right or remedy of Owner, may terminate the Contract by giving seven days written notice to Contractor and to Engineer. In such case, Contractor shall be paid (without duplication of any item) as follows:

- For completed and acceptable work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such work;
- For expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials or equipment as required by the Contract Documents in connection with uncompleted work, plus fair and reasonable sums for overhead and profit on such expenses;
- For all claims, costs, losses and damages (including, but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or

- arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers and others; and
- For reasonable expenses directly attributable to termination.

The Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

00700.18.4 TERMINATION OF CONTRACT BY CONTRACTOR

If, through no act or fault of Contractor, the Work is suspended:

- For more than 90 consecutive days by Owner, or
- Because of an order of a court or other public authority, or
- The Engineer fails to act on any Application for Payment within 30 days after it is submitted, or
- Owner fails for 30 days to pay Contractor any sum finally determined to be due, then

Contractor may, upon seven days written notice to Owner and to Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Subsection 00700.18.3.

00700.19 PAYMENTS TO THE CONTRACTOR

00700.19.1 APPLICATION FOR PAYMENT

- 00700.19.1.1 SUBMISSION OF APPLICATION - On or before the 10th day of each month, or as otherwise agreed, the Contractor will submit to the Engineer an Application for Payment for the work done in the previous month. The application shall be filled out and signed by the Contractor and be supported by such data as the Engineer may reasonably require.

The Application for Payment may include an allowance for the cost of major materials and equipment which have been delivered and suitably stored at or near the Work site but have not yet been incorporated into the Work. If payment is requested on this basis, the Application for Payment shall also be accompanied by such supporting data, satisfactory to the Owner, as will establish the Owner's title to the material and equipment and protect its interest therein, including proof of full coverage under applicable insurance. See Subsection 00700.21.4.5 below.

- 00700.19.1.2 ENGINEER'S APPROVAL - The Engineer will, within seven (7) days following receipt of each Application for Payment, review and either approve or reject the application. The Engineer will indicate approval in writing and present the request for payment to the Owner or trustee as applicable. If the application is rejected, the Engineer will return the application to the Contractor indicating in writing the reasons for rejecting it. In the latter case, the Contractor may make necessary corrections or revisions and resubmit the Application for Payment.

- 00700.19.1.3 PAYMENT BY OWNER - The Owner or trustee will, within thirty (30) days of presentation of an approved Application for Payment, pay the Contractor a progress payment on the basis of the Application. The Owner shall deduct, retain and administer the retainage amounts of each payment in accordance with provisions of applicable state and local laws. Unless otherwise specified in the Construction Contract Agreement or in the Special Provisions, amounts deducted, retained, administered and paid shall be as described below:

- As directed by the Engineer, the Owner shall deduct and retain up to ten (10) percent of the amount of each payment until there has been ninety-five (95) percent completion and acceptance of all work covered by the Contract Documents.
- When not less than ninety-five (95) percent of the Work has been completed, the Engineer may reduce the amount of retainage to one and one-half percent of the original Contract Price to ensure completion.
- Upon completion and acceptance of a part of the Work on which the price is stated separately in the Contract Documents, payment may be made in full, including retained percentages, less authorized deductions.

00700.19.2 NON-PAYMENT BY OWNER

Unless otherwise specified in the Agreement or elsewhere in the Contract Documents, if the Owner fails to make payment thirty (30) days after approval by the Engineer, in addition to other remedies available to the Contractor, there shall be added to each such payment interest at the current prime rate commencing on the first day after said payment is due and continuing until the payment is received by the Contractor.

00700.19.3 WITHHOLDING OF PAYMENT BY OWNER

00700.19.3.1 DEFICIENCIES IN THE WORK - As a result of subsequently discovered evidence, the Owner may, after consultation with the Engineer, withhold or nullify the whole or part of any payment application as may be necessary to protect the Owner from loss for:

- Defective work not remedied
- Claims filed
- Failure of the Contractor to make payments properly to subcontractors or suppliers.
- Damage to another Contractor
- Performance of the Work in violation of the terms of the Contract Documents.

In the event this situation arises where the Work is substantially complete but lacks testing, cleanup and/or corrections, quantities may be reduced proportionately in the payment to cover such testing, cleanup and/or corrections.

When the deficiencies of the contract terms contributing to this action are corrected, payment will be made for amounts due in full.

00700.19.3.2 CONTINUED NON-PERFORMANCE - In the instance of continued non-performance or non-compliance on the part of the Contractor in making remedies or corrections to deficiencies in the Work, the Owner may himself, or with the help of another contractor or hired worker, perform the work necessary to bring about the required corrections and/or remedies. The cost of such work, to include both labor and materials, will be withheld from payments otherwise due to the Contractor until the situation has been resolved.

00700.19.3.3 REFERENCE - See also Subsection 00700.19.4 next below.

00700.19.4 PAYMENT INDEMNIFICATION

00700.19.4.1 SATISFACTION OF OBLIGATIONS - The Contractor will indemnify and save the Owner or the Owner's agents harmless from all claims growing out of the lawful demands of subcontractors, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the Work.

The Contractor shall, at the Owner's request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the Contractor fails to do so, the Owner may, after having notified the Contractor, pay unpaid bills or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the Contractor shall be resumed, in accordance with the terms of the Contract Documents, but in no event shall the provisions of this sentence be construed to impose upon the Owner any obligations to either the Contractor, the Contractor's surety, or any third party. In paying any unpaid bills of the Contractor, any payment so made by the Owner shall be considered as a payment made under the Contract Documents by the Owner to the Contractor and the Owner shall not be liable to the Contractor for any such payments made in good faith.

00700.19.4.2 REFERENCE - See also Subsection 00700.24 below.

00700.19.5 FINAL PAYMENT ON COMPLETION OF WORK

Upon completion and acceptance of the Work, the Engineer shall issue a certificate, attached to the final Application for Payment, that the Work has been accepted under the conditions of the Contract Documents. The entire balance found to be due the Contractor, including the retained percentages, but except such sums as may be lawfully retained by the Owner, shall be paid to the Contractor within sixty (60) days (or per state law) of completion and acceptance of the Work.

00700.19.6 ACCESS TO PREMISES AND FACILITIES

00700.19.6.1 USE OF COMPLETED WORK – At any time, the Owner may, with the approval of the Engineer and with the concurrence of the Contractor, use any completed or substantially completed portions of the Work. Such use shall be authorized by issuance of a Notice of Substantial Completion and shall not constitute an acceptance of such portions of the Work.

00700.19.6.2 NON-CONTRACT WORK - The Owner shall have the right to enter the premises for the purpose of doing work not covered by the Contract Documents. This provision shall not be construed as relieving the Contractor of the sole responsibility for the care and protection of the Work, or the restoration of any damaged work except such as may be caused by agents or employees of the Owner.

00700.20 ACCEPTANCE OF FINAL PAYMENT AS RELEASE

The acceptance by the Contractor of final payment shall be and shall operate as a release to the Owner of all claims and all liability to the Contractor other than claims in stated amounts as may be specifically excepted by the Contractor for all things done or furnished in connection with this Work and for every act and neglect of the Owner and others relating to or arising out of this Work. Any payment, however, final or otherwise, shall not release the Contractor or its sureties from any obligations under the Contract Documents or the Performance Bond and Payment Bond.

00700.21 INSURANCE

00700.21.1 PURCHASE OF INSURANCE

The Contractor shall purchase insurance to protect against liability, loss, or other expense arising from damage to property or injury to or death of any person or persons incurred in anyway out of, in connection with, or resulting from the Work provided hereunder. The Contractor shall purchase the insurance from reliable insurance companies authorized to do business in the state in which the Work is to be performed. The insurance shall be rated "A" or better and have a financial size

category of Class VII or larger as determined by A.M. Best Company at the time the Contract Documents are executed.

00700.21.2 CERTIFICATE OF INSURANCE.

Certificates of Insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work. Such Certificates shall identify the Owner and Engineer (and any other party identified in the Supplemental General Conditions) as additional insured. These Certificates shall contain a provision that coverage afforded under the policies will not be materially changed or reduced unless at least thirty (30) days prior written notice has been given to the Owner.

00700.21.3 COVERAGE OF INSURANCE

Insurance purchased by the Contractor shall provide protection against claims including, but not limited to, those set forth below, which may arise out of, or result from, the Contractor's execution of the Work, whether such execution be by the Contractor or by any subcontractor or by any other person directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- Claims under workmen's compensation, disability benefit and other similar employee benefit acts;
- Claims for damages because of bodily injury, occupational sickness or disease, or death of its employees;
- Claims for damages because of bodily injury, sickness or disease or death of any person other than its employees;
- Claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor, or (2) by any other person; and
- Claims for damages because of injury to or destruction of tangible property, including loss of use resulting therefrom.

00700.21.4 REQUIRED INSURANCE

The required insurance shall be the following or equivalent, where each applies:

00700.21.4.1 WORKERS COMPENSATION - Workers Compensation Insurance and Employer's Liability Insurance that provide statutory benefits. The Best's rating requirements are waived for coverage provided by the Worker's Compensation Fund within the state in which the Project is located. The Contractor shall require all subcontractors at any tier to take and maintain similar policies of Workers' Compensation Insurance.

00700.21.4.2 COMPREHENSIVE - Comprehensive General Liability Insurance and/or Commercial General Liability Insurance, including coverage for premises and operations, explosion, collapse and underground hazards, contractual (including this contract, and personal injury including employees) with limits of not less than \$1,000,000 combined single limit per occurrence, and not less than \$2,000,000 aggregate which shall be designated as applying to this contract. If this insurance is made on a "claims made" basis, the certificate of insurance required above shall indicate, and the policy shall contain, an extended reporting period provision or similar "tail" provision such that claims reported up to one (1) year beyond the date of completion of this contract are covered.

- 00700.21.4.3 AUTOMOBILE - Comprehensive Automobile Liability insurance including owned, hired, and non-owned automobiles with limits not less than \$1,000,000 combined single limit per accident.
- 00700.21.4.4 AIRCRAFT - The Contractor using its own aircraft, or employing aircraft in connection with the Work performed under these Contract Documents shall maintain Aircraft Liability Insurance with a combined single amount of not less than \$1,000,000 per occurrence.
- 00700.21.4.5 PROPERTY - Unless otherwise provided, the Contractor shall purchase property insurance in an amount equal to the initial Contract Price plus any subsequent modifications thereto for the entire Work of the Project on a replacement cost basis with any applicable deductibles not to exceed \$5,000.

Property insurance shall be on an all-risk form. It shall provide extended coverage and shall insure against the perils of fire and physical loss or damage including, without duplication of coverage, flood, earth movement, theft, vandalism, malicious mischief, collapse, falsework, temporary buildings, and debris removal including demolition occasioned by enforcement of any applicable requirements. It shall include reasonable compensation for Engineer's services required as a result of such insured loss. Coverage for other perils shall not be required unless otherwise called for in the Contract Documents.

Such property insurance shall be maintained, unless otherwise provided in the Contract Documents, or otherwise agreed to in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made or until no person or entity other than the Owner has an insurable interest in the Work to be covered. This insurance shall include interests of the Owner, the Contractor, and subcontractors in the Work. The form of this policy for this coverage shall be Completed Value. If the Owner is damaged by the failure of the Contractor to maintain such insurance, then the Contractor shall bear all reasonable costs properly attributed thereto.

Unless otherwise provided in the Contract Documents, and with written approval of the Owner, this property insurance shall cover portions of the Work stored off the site, at the value established in the approval, as well as portions of the Work in transit.

00700.21.5 MAINTENANCE OF INSURANCE

Unless otherwise provided, all required insurance shall remain in force during the entire Contract Time.

00700.21.6 ARRANGEMENT OF POLICIES

Any policy required by this section may be arranged under a single policy for the full limit required, or by a combination of underlying policies with the balance provided by an Excess or Umbrella Liability Policy.

00700.21.7 ADDITIONAL INSURED

All liability insurance policies required hereunder shall provide that the Owner, Engineer and all departments, authorities and instrumentalities, and while acting within the scope of its duties, all of its elected or appointed officers, employees and authorized volunteers as well as advisory committees, shall be named as additional insured. Such policies shall also provide that coverage for the above insured is primary and not contributing.

00700.21.8 INSOLVENCY OF INSURER

Irrespective of the requirements as to insurance to be carried by the Contractor as provided herein; insolvency, bankruptcy or failure of any insurance company to pay all claims accruing, shall not be held to relieve the Contractor of any obligations hereunder.

00700.22 CONTRACT SECURITY**00700.22.1 PROVISION OF BONDS**

The Contractor shall within ten (10) days after the receipt of the Notice of Award, furnish the Owner with a Performance Bond and a Payment Bond in penal sums equal to the amount of the Contract Price, conditioned upon the performance by the Contractor of all undertakings, covenants, terms, conditions, and agreements of the Contract Documents, and upon the prompt payment by the Contractor to all persons supplying labor and materials in the execution of the Work provided by the Contract Documents. Such bonds shall be executed by the Contractor and a corporate bonding company licensed to transact such business in the state in which the Work is to be performed and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of these bonds shall be borne by the Contractor.

00700.22.2 BANKRUPTCY OF SURETY

If at any time a surety on any such Bond is declared bankrupt or loses its right to do business in the state in which the Work is to be performed or is removed from the list of Surety Companies accepted on Federal bonds, Contractor shall within ten (10) days after notice from the Owner to do so, substitute an acceptable bond (or bonds) in such form and sum and signed by such other surety or sureties as may be satisfactory to the Owner. The premiums on such bond shall be paid by the Contractor. No further payments to the Contractor shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable Bond to the Owner.

00700.23 ASSIGNMENTS

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

00700.24 INDEMNIFICATION**00700.24.1 OWNER AND ENGINEER HELD HARMLESS**

In addition to indemnification provisions of the Contract, the Contractor will indemnify and hold harmless the Owner and the Engineer and its agents and employees from and against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance of the Work, provided that any such claims, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property including the loss of use resulting therefrom; and is caused in whole or in part by any negligent or willful act or omission of the Contractor, and subcontractor or supplier, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

00700.24.2 WORKMAN'S COMPENSATION AND EMPLOYEE BENEFITS

In any and all claims against the Owner or the Engineer, or any of their agents or employees, by any employee of the Contractor, any subcontractor, anyone directly or indirectly employed by any

of them or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under workmen's compensation acts, disability benefit acts or other employee benefits acts.

00700.24.3 ENGINEER LIABILITY

The obligation of the Contractor under this paragraph shall not extend to the liability of the Engineer, its agents or employees arising out of the preparation or approval of maps, Drawings, opinions, reports, surveys, Change Orders, designs or Specifications.

00700.25 SEPARATE CONTRACTS**00700.25.1 OTHER PROJECT CONTRACTS**

The Owner reserves the right to let other contracts in connection with this Project. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and coordinate the Work with theirs. If the proper execution or results of any part of the contractor's work depends upon the work of any other Contractor, the Contractor shall inspect and promptly report to the Engineer any defects in such work that render it unsuitable for such proper execution and results.

00700.25.2 ADDITIONAL PROJECT RELATED WORK

The Owner may perform additional work related to the Project, or the Owner, may let other contracts containing provisions similar to these. The Contractor will afford the other contractors who are parties to such contracts (or the Owner, if the Owner is performing the additional work), reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate the contractor's work with theirs.

00700.25.3 WRITTEN NOTICE OF ADDITIONAL WORK

If the performance of additional work by other contractors or the Owner is not noted in the Contract Documents prior to the execution of the Contract, written notice thereof shall be given to the Contractor prior to starting any such additional work. If the Contractor believes that the performance of such additional work by the Owner or others involves the Contractor in additional expense or entitles it to an extension of the Contract Time, the Contractor may make a claim therefor as provided in Subsections 00700.14 and 00700.15 of these General Conditions.

00700.26 SUBCONTRACTING

The Contractor may utilize subcontractors under the following conditions:

- The Contractor may utilize the services of specialty subcontractors on those parts of the Work which, under normal contracting practices, are performed by specialty subcontractors.
- The Contractor shall not award work to subcontractor(s), in excess of fifty (50%) percent of the Contract Price, without prior written approval of the Owner.
- The Contractor shall be as fully responsible to the Owner for the acts and omissions of its subcontractors and suppliers, and of persons either directly or indirectly employed by them, as the Contractor is for the acts and omissions of persons directly employed by itself.
- The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind subcontractors to the Contractor by the terms of the Contract Documents insofar as applicable to the Work of subcontractors and to give the Contractor the same power

as regards terminating any subcontract that the Owner may exercise over the Contractor under any provision of the Contract Documents.

- Nothing contained in this Contract shall create any contractual relation between any subcontractor or supplier and the Owner.

00700.27 ENGINEER'S AUTHORITY

The Engineer shall act as the Owner's representative during the construction period and shall otherwise perform as follows:

- The Engineer shall decide questions which may arise as to quality and acceptability of materials furnished and work performed.
- The Engineer shall interpret the intent of the Contract Documents in a fair and unbiased manner.
- The Engineer will make visits to the site and determine if the Work is proceeding in accordance with the Contract Documents.
- The Engineer will not be responsible for the construction means, controls, techniques, sequences, procedures, or construction safety.
- The Engineer shall promptly make decisions relative to interpretation of the Contract Documents.
- The Engineer will carefully enforce the intent of the Contract Documents in regard to the quality of materials, workmanship and execution of the Work. Inspections may be made at the factory or fabrication plant of the source of material supply, when determined necessary by the Engineer.

00700.28 LAND AND RIGHTS-OF-WAY

00700.28.1 NOT USED

00700.28.2 CONTRACTOR'S RESPONSIBILITY

The Contractor shall provide at its own expense and without liability to the Owner any additional land and access thereto that the Contractor may desire for temporary construction facilities or for storage of materials.

00700.29 GUARANTEE

The Contractor shall guarantee all materials and equipment furnished and work performed for a period of one (1) year from the date Final Acceptance. The Contractor warrants and guarantees for a period of one (1) year from the date of Final Acceptance of the Work that the completed Work is free from all defects due to faulty materials or workmanship and the Contractor shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the Work resulting from such defects. The Owner will give notice of observed defects with reasonable promptness. In the event that the Contractor should fail to make such repairs, adjustments, or other work that may be made necessary by such defects, the Owner may do so and charge the Contractor the cost thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period.

00700.30 ARBITRATION**00700.30.1 DECISION BY ARBITRATION**

All claims, disputes, and other matters in question arising out of, or relating to, the Contract Documents or the breach thereof, except for claims which have been waived by making an acceptance of final payment as provided by Subsection 00700.20 of these General Conditions, may be decided by arbitration if the parties mutually agree. Any agreement to arbitrate shall be specifically enforceable under the prevailing arbitration law. The award rendered by the arbitrators shall be final, and judgment may be entered into any court having jurisdiction thereof.

00700.30.2 WRITTEN REQUEST FOR ARBITRATION

Notice of the request for arbitration shall be filed in writing with the other party to the Contract Documents and a copy shall be filed with the Engineer. Request for arbitration shall in no event be made on any claim, dispute, or other matter in question which would be barred by the applicable statute of limitations.

00700.30.3 CONTINUATION OF WORK

The Contractor will carry on the Work and maintain the progress schedule during any arbitration proceedings, unless otherwise mutually agreed to in writing.

00700.31 TAXES

The Contractor will pay all sales, consumer, use and other similar taxes required by the law of the place where the Work is performed.

01019.1 DESCRIPTION

This Section covers measurement and payment practices utilized by Sunrise Engineering in performing its contract management services according to the requirements of these Specifications and other parts of the Contract Documents.

01019.2 MEASUREMENT**01019.2.1 METHODS**

The method of measurement and computations to be used in determination of quantities of material furnished, and of work performed under the Contract, will be those methods generally recognized as conforming to good engineering practice.

When items of improvement, equipment, or service referred to herein as "work" are shown on the plans and/or called for in the specifications for the Contractor to furnish, install, or provide, the items of work shall be measured and paid for in one of two ways. First, if the item of work is considered incidental to other items in the Bid Schedule, no separate measurement and payment shall be made and no separate bid item in the bid schedule will appear. In this case measurement and payment for this work shall be included by the Contractor in other bid items on the bid schedule. Second, when shown separately on the bid schedule, the item of work shall be measured as called for in the specifications and paid for at the contract unit price for that work.

01019.2.2 ACCURATE PRICING

The Bidder shall include a price for all bid items in the Bid Schedule and the Schedule of Values if required. Failure to do so may render the Bid non-responsive and may cause its rejection. All bids will be checked for errors. In the event the total "amount" indicated on the Bid schedule for a bid item does not equal the product of the unit price times the estimated quantity, the unit price shall govern, and the amount will be corrected accordingly. In the event the Bid Total does not agree with the sum of the prices bid on the individual bid items, the individual item prices shall govern and the total for the Bid schedule will be corrected accordingly. The Contractor shall be bound by any such corrections. For "Lump Sum" bid items, where applicable, the total shown on the Schedule of Values shall equal the amount entered for the corresponding bid item on the Bid schedule.

01019.2.3 U.S. STANDARD MEASURE

All work completed under this Contract will be measured by U.S. standard measure for the units described herein. Work performed by the Contractor will be measured in those units in accordance with the procedure described herein.

01019.2.4 MEASUREMENT BY ENGINEER

Since the quantities appearing on the Bid Schedules are approximate only and are prepared for the comparison of bids, all work and materials are subject to measurement by the Engineer. Measurement of work performed by the Contractor on Bid items with unit prices other than "lump sum" will be for the actual quantities of work performed and accepted, or material furnished in accordance with the Contract. In the case of lump sum bid items, the Engineer will verify that all of the work represented by the bid item has been completed.

01019.2.5 VARIATIONS IN QUANTITIES OF WORK

The scheduled quantities of work to be done and materials to be furnished may each be increased, decreased, or omitted at the Owner's discretion.

01019.2.6 MEASUREMENT BY LUMP SUM

The term "Lump Sum" when used as a unit of measurement for a bid item or separate component of a work shall include all work materials necessary to complete that entire item or component, including all necessary accessories.

01019.2.7 NOT USED**01019.2.8 MEASUREMENT BY AREA**

Area computations will be made from actual horizontal and transverse measurements made on the surface of the completed work.

01019.2.9 MEASUREMENT BY EACH

All work measured by each shall be an an individual or single unit.

01019.3 PAYMENT**01019.3.1 SCOPE OF PAYMENT**

The Contractor shall receive and accept compensation provided in the Contract as full payment for:

- Furnishing all materials, labor, equipment, tools, transportation and incidentals required for completion of work.
- All loss or damage due to the nature of the work, action of the elements and unforeseen difficulties until final acceptance by the Engineer, subject to the provisions of the General Conditions.
- All costs arising from any infringement of a patent, trademark or copyright.
- Bids shall include all sales tax and all other applicable fees.

01019.3.2 NON-PAYMENT

No payment will be made for:

- Work which is in excess of that described in the Contract Documents.
- Removal and replacement of defective work.
- Loss of anticipated profits.

01019.3.3 LUMP SUM

The term "lump sum", when used as a unit for payment, shall include all work required to complete the item, including all necessary accessories, as described in the specifications.

01019.3.4 FULL PAYMENT

The Contractor shall receive and accept compensation provided for in the Contract as full payment for furnishing all materials and for performing all work under the Contract in a complete and

acceptable manner and for all risk, loss, damage or expense of whatever character arising out of the nature of the work or the execution thereof.

01019.3.5 VARIATION IN QUANTITY OF WORK

When the final and accepted quantity of an item of work varies from the original quantity in the Bid Schedule but is within twenty-five (25) percent of that quantity, whether more or less, the Contractor shall accept payment at the unit price shown on the Bid Schedule for the actual quantity of work performed, which shall constitute payment in full for that item. If the variation in the quantity of an item of work shown on the Bid Schedule exceeds twenty-five (25) percent of the original quantity, whether more or less, an adjustment of unit price will be negotiated. Any adjustment resulting from such negotiation shall be authorized by Change Order in accordance with the General Conditions.

The Owner reserves the right to make variations in quantities by adding to, or deleting from, quantities listed in the bid schedule in order to match the total bid with the money available in the budget.

01030.1 DESCRIPTION

This section covers project meetings including the pre-construction meeting and other progress and/or work coordination meetings conducted to provide communication and awareness to all parties associated with the Contract.

01030.2 PRE-CONSTRUCTION CONFERENCE

Prior to the commencement of work at the site, a pre-construction conference will be held at a mutually agreed time and place to be arranged by the Engineer. The Engineer shall also provide notification to all parties expected to attend the meeting. Attendees will include the following:

- Engineer
- Project Inspector
- Owner/Owner's Representative
- Contractor/Contractor's Representative/ Subcontractors as appropriate
- Governmental Representatives as appropriate (State, County, Municipal, etc.)
- Manufacturer/Supplier Representatives/Adjoining Contractors, as appropriate.
- Utility Service Representatives as appropriate.

01030.2.1 Unless previously submitted to the Engineer, the Contractor shall bring to the conference one copy each of the following:

- Contract construction schedule in accordance with the General Conditions.
- Procurement schedule of major equipment and materials and items requiring long lead-time.
- Shop Drawings, samples or substitution proposals for items proposed as substitutions or "or equal" items.
- Schedule of work that includes the anticipated monthly payment amounts during the contract.
- A Schedule of Values of work to be paid for as lump sum items where partial payment is anticipated.

01030.2.2 The purpose of the conference is to designate responsible personnel and establish a working relationship. Matters requiring coordination will be discussed and procedures for handling such matters established. The agenda may include but not be limited to the following items:

- Contractor's Work Schedule.
- Transmittal, review, distribution and approval of Contractor's submittals.
- Processing of applications for payment.
- Maintaining records and documents.
- Critical work sequencing.
- Field decisions and Change Orders.
- Use of project site, office and storage areas, security, housekeeping, and Owner's needs.
- Major equipment deliveries and priorities.
- Interpretation of Drawings and Specifications.
- Contractor's responsibilities for safety, first-aid and sanitation.

01030.2.3 The Engineer will preside at the pre-construction conference and will arrange for keeping minutes and distributing them to all attendees to the meeting.

01030.3 PROGRESS/COORDINATION MEETINGS

01030.3.1 The Contractor shall conduct regular on-site progress and coordination meetings at least weekly and at other times as requested by Engineer or as required by progress of the work. The

Contractor, Engineer, and all Subcontractors active on the site shall be represented at each meeting. The Contractor may, at its discretion, request attendance by representatives of its suppliers, manufacturers, and other Subcontractors. The Contractor shall be responsible for providing written notification to those deemed necessary for attendance at least 36 hours prior to the time set for the meeting.

- 01030.3.2 The Contractor shall preside at the meetings and maintain a file of minutes of the proceedings. The purpose of the meetings will be to review the progress of the work, maintain coordination of effort, discuss changes in scheduling, and resolve other problems which may develop.

01200.1 DESCRIPTION

The purpose of this section is to clarify certain aspects of the Project and the Contract that must be taken into consideration and completed before final acceptance of the Work can be given. These items include cleanup, demonstration of acceptable performance of equipment, accessories, hardware and facilities etc. furnished and installed, submittals, payment for all work completed, issuance of final acceptance documentation, accepted repair and restoration of work and materials found defective during the warranty period. Specific instructions are provided herein for completion of the Work in such a manner that it will be fully acceptable and that the Contractor will be eligible for receipt of final payment.

01200.1.1 RELATED WORK AND REFERENCED SECTIONS

Not used.

01200.1.2 SUBMITTALS

Section 01300 - Submittals
See paragraph 01200.3.5 below.

01200.1.3 DEFINITIONS

Not used.

01200.2 MATERIALS

Not used.

01200.3 CONSTRUCTION REQUIREMENTS**01200.3.1 CLEANUP**

The Owner will not give final acceptance of the Work until the Contractor has satisfactorily complied with the finishing and cleanup requirements contained in these Contract Documents and with any applicable local regulations. The Contractor shall accomplish the cleanup operations so as to leave the work site in an orderly, acceptable, and presentable condition.

01200.3.2 REPAIR AND RESTORATION

All major and minor damage to improvements and finished surfaces resulting from the Contractor's performance of the Work, whether to materials and equipment located on the project site or to those constructed under this Contract, shall be repaired to an original, or like-new, condition before final acceptance will be provided by the Engineer and Owner. Where damage to surfaces or materials can not be sufficiently repaired or restored, in the opinion of the Engineer, the Contractor may be required to replace the entire surface covering or structural member to achieve an original or like-new condition of the surface or material.

01200.3.3 TESTING

All performance and operational testing of facilities and equipment required by the Contract Documents, together with any required supportive documentation, shall be completed by the Contractor and approved by the Engineer prior to final acceptance of the Work.

01200.3.4 ACCEPTANCE FROM PROPERTY OWNER

The Contractor shall obtain a written release from each property owner on whose property work has been required by these Contract Documents. Such release shall indicate the property Owner's approval of the restoration and/or replacement of all disturbed improvements, surfaces and structures. Any request made to the Contractor by a private property owner, and determined to be unreasonable in the opinion of the Engineer, may be waived by the Owner.

01200.3.5 SUBMITTAL OF MANUFACTURER'S DOCUMENTATION

All guarantees and warranties, operation and maintenance manuals or brochures, or other materials furnished to the Contractor by the manufacturer for any equipment or material used for the Work shall be delivered to the Owner in protective 3-ring binders. Retainage held to the Contractor in accordance with the General Conditions of the Contract Documents will not be released until such documentation is submitted. See Section 01300 for more detail regarding O&M manuals.

01200.3.6 FINAL ACCEPTANCE

01200.3.6.1 CONTRACTOR'S STATEMENT OF COMPLETION - When the Contractor has completed the Work under this contract, including all of the Contractor's testing and clean-up, the Contractor shall inform the Engineer in writing that the Work has been completed and request a final inspection by the Engineer. The Engineer will then conduct a final inspection with the Owner and representatives of the pertinent funding and regulatory agencies. If items are found by the Engineer to be incomplete or not in compliance with the contract requirements, the Engineer will inform the Contractor of such items. After the Contractor has completed these items, the procedure shall then be the same as described above for the Contractor's statement of completion and request a final inspection.

01200.3.6.2 NOTICE OF FINAL ACCEPTANCE - After the Engineer has determined that all work required under the Contract Documents has been completed and that all of the considerations specified herein above are satisfactorily concluded, the Engineer will recommend to the Owner, in writing, that final acceptance of the entire Work under this contract be made as of the date of the Engineer's final inspection. The Owner and Engineer will then indicate formal approval and acceptance of the Work by issuing the "Notice of Final Acceptance" form.

01200.3.6.3 NO PARTIAL ACCEPTANCE - Unless otherwise required by Special Provisions, partial acceptance of any portion of the Work will not be made. While Substantial Completion notice can be issued in accordance with the General Conditions to allow use of completed work for its intended purpose, no acceptance other than the final acceptance of all completed work will be made. No inspection or approval or Notice of Substantial Completion pertaining to specific parts of the work shall be construed as final acceptance of any part until written final acceptance of all work is issued.

01200.4 METHOD OF MEASUREMENT

Not used.

01200.5 BASIS OF PAYMENT

Not used.

01300.1 DESCRIPTION

This section covers procedures to be followed by the Contractor when providing information to the Owner and/or Engineer to obtain approval of materials, equipment, procedures, etc. described in the Specifications and Drawings.

01300.2 SHOP DRAWINGS AND MATERIALS SUBMITTALS**01300.2.1 NUMBER OF COPIES OF SUBMITTALS**

The Contractor shall furnish six (6) copies of each shop drawing and pertinent materials information sheet to the Engineer for review. A full set of submittals shall be provided to the Engineer seven (7) days prior to commencement of construction activity. Following review and approval, two copies shall be returned to the Contractor for his records, two shall be retained by the Engineer for inspection and verification purposes, and two shall go to the Owner as working and archival records.

01300.2.2 SHOP DRAWINGS

01300.2.2.1 CONTRACTOR REVIEW - The Contractor's shop drawing submittals shall be reviewed by a qualified representative of the Contractor, prior to submission to the Engineer. Such review shall be made to ensure the accuracy and compliance with the technical requirements and performance described and illustrated in the Drawings and Specifications.

01300.2.2.2 CONTENT - Shop drawings shall include drawings, pictures and sketches with sufficient details and explanations to reflect the Contractor's interpretations of components and required configurations not shown on the drawings, so that a documented record of such can be approved for incorporation in the Work. These drawings shall be accurate, distinct, and complete and shall contain all required information, including satisfactory identification of items and unit assemblies in relation to the Drawings and/or Specifications.

01300.2.2.3 TIMELY SUBMITTAL - Shop drawings shall be submitted sufficiently in advance to allow the Engineer not less than ten regular working days prior to manufacturing for examining the drawings.

01300.2.2.4 ENGINEER APPROVAL - When the shop drawings are approved by the Engineer, two sets of copies will be returned to the Contractor marked "Approved", "Revise as Noted", "Rejected", "Approved Except as Noted", or similar notification. If changes or corrections are necessary, one set will be returned to the Contractor with such changes or corrections indicated by a brief statement, and the Contractor shall correct and resubmit the drawings, in triplicate, to the Engineer.

Fabrication work shall not commence until the Engineer has reviewed the pertinent shop drawing/s and returned copies to the Contractor marked either "Approved" or "Approved - Except as Noted". Corrections indicated on such submittals shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as the basis of claims for extra work.

Approval of shop drawings will not be required for reinforcing steel that is detailed by the Contractor in accordance with the Plans and Specifications. Any change from the Plans and Specifications made by the Contractor in any aspect of the Work shall be approved by the Engineer in a written Change Order prior to any work being altered from that already approved for construction.

001300.2.3 MATERIALS INFORMATION SUBMITTALS

In keeping with 01300.2.1 above, the Contractor shall assemble and submit six (6) original copies of each manufacturer's catalog cuts and materials information sheets pertaining to materials and equipment to be furnished and installed in the Work. These submittals shall be enclosed in 3-ring binders. Failure to submit all materials information may result in the Contractor's partial payments to be withheld until submittals are complete. Photocopies of the catalog cuts and information sheets will not be acceptable as submittals without prior authorization from Engineer.

01300.2.4 CONTRACTOR LIABILITY

The Contractor shall assume all responsibility and risk for any re-work or other costs resulting from errors in Contractor submittals. The Contractor shall be responsible for showing accurate dimensions and details of connections required to ensure the function of the equipment and/or component of the Work being illustrated.

01300.3 SAMPLES**01300.3.1 NUMBER OF SUBMITTALS**

Whenever requested by the Engineer, the Contractor shall submit at least one sample of each item or material indicated in the Specifications to the Engineer for inspection and acceptance and do so at no additional cost to the owner.

01300.3.2 TIMELY AND ORDERLY SUBMITTAL

Samples shall be submitted sufficiently in advance of placement of orders that the Engineer shall have not less than ten regular working days for examining and testing the material for acceptance prior to delivery to the job site. Samples shall be submitted in an orderly sequence and appropriately identified so that dependent materials or equipment can be assembled and reviewed without causing delays in the work or mistakes in their identity.

01300.3.3 SELECTION OF COLORS AND TEXTURES

Unless otherwise specified, the Owner and the Engineer will select all colors and textures of specified items from the manufacturer's standard colors and standard materials, products, or equipment lines.

01300.4 OPERATIONS AND MAINTENANCE MANUALS**01300.4.1 STRUCTURE OF OPERATIONS AND MAINTENANCE MANUALS**

The Contractor shall furnish to the owner four (4) identical sets of Operations and Maintenance manuals. Each set shall consist of one or more volumes, each of which shall be bound in a standard size, 3-ring, loose-leaf, vinyl plastic, hard cover binder suitable for bookshelf storage. Binder ring size shall not exceed 2.5 inches. A table of contents shall be provided which indicates all equipment in the Operations and Maintenance manuals.

01300.4.2 CONTENTS

The Contractor shall include in the Operations and Maintenance Manuals the following information for each item of mechanical, electrical, and instrumentation equipment:

- Care and maintenance of all finished exposed surfaces.

- Complete operating instructions, including location of controls, special tools or other equipment required, related instrumentation, and other equipment needed for operation.
- Preventive maintenance procedures and schedules.
- Complete parts lists, by generic title, identification number, and catalog number, complete, with exploded views of each assembly.
- Disassembly and reassembly instructions.
- Name and location of nearest supplier and spare parts warehouse.
- Name and location of manufacturer.
- Recommended start-up, testing and troubleshooting procedures.
- Prints of the record drawings, including diagrams and schematics, as required under the electrical and instrumentation portions of these specifications.

01300.4.3 SCHEDULE OF DELIVERY

Operations and Maintenance manuals shall be submitted in final form to the owner before seventy-five (75) percent of the Work is completed. Any discrepancies found by the owner and Engineer in the Operations and Maintenance manuals shall be corrected by the Contractor prior to final acceptance of the project.

01300.5 SCHEDULE OF VALUES

At the time of the pre-construction conference, the Contractor shall submit a Schedule of Values of the Work measured as lump sum bid items. On the Schedule, those items shall be subdivided into component parts in sufficient detail as to form a basis for determining progress payments during construction. Quantities, and/or prices, shown on the Schedule shall equal the total contract price for each lump sum item. Information provided on the Schedule will be reviewed and approved by the Engineer when found acceptable. That information will then be incorporated into the data used for preparing the Application for Payment by the Engineer.

01300.6 CONTRACT CONSTRUCTION SCHEDULE

A construction schedule, prepared in accordance with requirements of the General Conditions, shall be submitted to the Engineer at the pre-construction conference. Unless required otherwise in Special Provisions, such schedule shall show the anticipated time of completion, approximate start dates of identifiable segments of the Work, and anticipated value of the work expected to be completed in monthly time periods within the contract period.

01300.7 PROCUREMENT SCHEDULE

At the time of the pre-construction meeting (see Section 01030), the Contractor shall submit a procurement schedule to the Engineer. This plan shall include all equipment and materials required for the Work included in the Contract that are not readily available and will require off-site manufacture and lead time which can affect the progress of the Work. The plan shall show at least the following information:

- Equipment/Material Name
- Anticipated amount of time for ordering, manufacturing, and shipping to Work site.
- Anticipated dates for ordering, receiving and installing.

01300.8**CONSTRUCTION PHOTOGRAPHY RECORDS**

When required in the Contract Documents and prior to commencement of any of the Work, the Contractor shall prepare colored video photography records of all areas of the Contract work site and provide copies of such records to the Engineer. Such records shall become the property of the owner and may be used for determining the condition of work site/s and degree of restoration required for completion of the Work (see also Section 2000).

01400.1 DESCRIPTION

This section covers quality control of all work and activities on the part of the Owner, the Engineer, and the Contractor, to ensure compliance with these Specifications and the requirements of the Contract.

01400.2 ASSIGNMENT OF RESPONSIBILITY**01400.2.1 THE CONTRACTOR**

The Contractor has primary responsibility for ensurance of quality control of the Work provided under the Contract. Therefore, any omission or failure on the part of the Engineer to notify the Contractor of, or to condemn defective work and/or materials at the time of construction shall not be taken as acceptance of the work or materials, and the Contractor will be required to correct any defective work or materials prior to final acceptance.

01400.2.2 THE OWNER AND ENGINEER

The Engineer will endeavor to locate any errors or defective materials or workmanship, and call them to the attention of the Contractor prior to subsequent work being performed. However, the Engineer is under no obligation to do so, and neither the Owner, nor the Engineer shall be held liable for errors, or defective material, or defective workmanship performed by the Contractor and not discovered by the Engineer prior to subsequent work being performed.

01400.2.3 CORRECTIONS

Prior to execution of the Agreement, the Engineer may correct errors and omissions to these Contract Documents by issuing Addenda. After execution of the Agreement, correction of errors, omissions or other changes necessitated shall be made in accordance with the General Conditions (Section 00700).

01400.3 QUALITY OF MATERIALS**01400.3.1 COMPLIANCE WITH SPECIFICATIONS**

All materials and equipment incorporated in the Work shall be of new manufacture and shall be of the grade and quality described by these Specifications and the Special Provisions.

01400.3.2 SPECIFIED MATERIALS

Where a specific brand or manufacturer's equipment, model, system, or etc. is specified in these Specifications, no intention is made to be exclusive or limit competition, but rather to set forth the minimum standards for quality and performance.

01400.3.3 SUBSTITUTION OF MATERIALS

The Engineer, in accordance with the General Conditions (Section 00700.8), may allow substitution of equipment or materials. The Owner reserves the right to reject substitutions if, in his opinion, the proposed substitutions will not achieve comparable equipment installation and performance standards.

01400.4 QUALITY OF WORK

All workmanship incorporated in the Work covered by the Contract is to be of the grade and quality described by these Specifications and the Special Provisions.

01400.5 INSPECTION

01400.5.1 AUTHORITY AND DUTIES OF INSPECTOR

01400.5.1.1 AUTHORITY - Inspectors representing the Engineer are authorized to inspect all work performed and all materials furnished and to reject defective material and any work that is improperly performed, subject to the final decision of the Engineer. This authority extends to all or any part of the Work, including the preparation, fabrication, or manufacture of any materials or equipment to be used for completion of the Work. The Inspector is not authorized to alter or waive the provisions of these Specifications or other provisions of the Contract Documents. The Engineer may delegate additional authority to the Inspector when such action is determined to be necessary.

01400.5.1.2 DUTIES - Inspectors keep the Engineer informed as to the progress of the Work and the manner in which it is performed. Inspectors are also assigned to call the Contractor's attention to any observed nonconformance with the Contract Documents. The Inspector will not act as foreman for the Contractor.

01400.5.2 INSPECTION OF MATERIALS

01400.5.2.1 TESTING - In accordance with the Contract Documents and at the option of the Engineer, materials to be supplied under this contract will be tested and/or inspected either at their place of origin or at the site of the Work. The Contractor shall give the Engineer written notification well in advance of actual readiness of materials to be tested and/or inspected at the point of origin. Satisfactory tests and inspections at the point of origin shall not be construed as a final acceptance of the material nor shall it preclude re-testing or re-inspection at the site of the Work.

01400.5.2.2 SAMPLES - The Contractor shall furnish such samples of materials as are requested by the Engineer, without charge. No material shall be incorporated into the Work until the Engineer has approved it (see Section 01300).

01400.5.3 CONTRACTOR LIABILITY

The inspection of the Work shall not relieve the Contractor of any of its obligations to fulfill its contract as herein provided, and unsuitable materials may be rejected notwithstanding that such unsatisfactory performance may have been overlooked and accepted or estimated for payment.

01500.1 DESCRIPTION

Covers requirements for aptness, competency, quality, and quantity in the labor, equipment, tools, and materials supplied by the Contractor for execution of the Work.

01500.2 REQUIREMENTS

In order to bring the Work to completion in the manner and on the time schedule required by the Contract Documents, the Contractor shall provide sufficient labor and equipment with adequate training and capability as follows:

- The Contractor shall employ sufficient labor and equipment with adequate training and capability for executing the Work to full completion in the manner and time required by these Specifications.
- All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have appropriate training and sufficient experience in such work, in the opinion of the Engineer, to perform all work properly and satisfactorily.
- Any person employed by the Contractor or by any Subcontractor who, in the opinion of the Engineer, does not perform their work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Engineer, be removed forthwith by the Contractor or Subcontractor employing such person. Such person(s) shall not be employed again in any portion of the Work without the approval of the Engineer. When such action is considered, and if requested by that employee, a hearing attended by the employee, Engineer, and Contractor shall be conducted before final dismissal action is taken.
- Should the Contractor fail to remove such person or persons as required above or fail to furnish suitable and sufficient personnel for the proper execution of the Work, the Engineer may suspend the Work by written notice until such order is complied with.
- All equipment, which is proposed to be used on the Work, shall be of sufficient size and in such mechanical condition, in the opinion of the Engineer, as to produce a satisfactory quality of Work. Equipment used on any portion of the Work shall be fitted with appropriate protective devices in accordance with OSHA and other applicable safety regulations such that no injury to employees, the Work, or to adjacent property will result from its use.
- When the specific methods and equipment to be used by the Contractor in accomplishing the Work are not described in the Contract Documents, the Contractor is free to use any methods or equipment that will accomplish the Work in conformity with the requirements of this Contract.

01580.1 DESCRIPTION

In general, the Contractor is responsible for providing and maintaining access to the Work, handling and storing of materials and equipment, safety and security within the Work site, and coordination and cooperation with the Owner, its representatives, governing authorities and other contractors working for the Owner in accordance with the provisions of the General Conditions. This section contains specific requirements which apply to these responsibilities.

01580.1.1 RELATED WORK AND REFERENCED SECTIONS

Not Used.

01580.1.2 SUBMITTALS

Not used.

01580.1.3 DEFINITIONS

Not used.

01580.2 WORK SITE ACCESS**01580.2.1 INVESTIGATION OF WORK SITE AREA**

The Contractor shall make its own investigation of the condition of available public and private roads and of clearances, restrictions, and other limitations affecting ingress and egress to the site of the work.

01580.2.2 Not Used.**01580.2.3 USE OF PUBLIC STREETS AND ALLEYWAYS**

Nothing herein shall be construed to entitle the Contractor to the exclusive use of any public street, alleyway, or parking area during the performance of the Work, unless shown otherwise in the Contract Documents.

01580.2.4 CLOSURE OF PUBLIC ROADWAYS

No street, road, or highway shall be closed to the public without first obtaining permission from the proper governmental authorities and the Engineer. Where excavation is being performed in streets or highways, one lane in each direction shall be kept open to traffic at all times, unless otherwise authorized by the Contract Documents or the Engineer. Toe boards, or other measures, may be required by the Engineer to retain excavated material when deemed necessary.

01580.2.5 INTERFERENCE WITH UTILITIES

The Contractor shall so conduct operations as not to interfere unnecessarily with the infrastructure of utility companies or other agencies in such streets, alleyways, or parking areas.

01580.3 PUBLIC SAFETY AND ACCESS

Fire hydrants, approaches to fire stations, police stations and hospitals on or adjacent to the Work shall be kept accessible at all times. Appropriate measures shall be taken by the Contractor, to assure the use of sidewalks, and the proper functioning of all gutters, sewer inlets, water mains, drainage facilities and other infrastructure.

The Contractor's responsibility for Work safety or liability for Work site accidents is not lessened by the presence of the Engineer or his or another inspector performing monitoring of Work site safety conditions.

01580.4 CONTRACTOR'S USE OF THE WORK SITE

The Contractor's use of the Work site shall be limited to its construction operations. Written approval by the Engineer will be required for any other use of the site, such as material and equipment storage, personnel vehicle parking, on-site fabrication facilities and field office.

01580.5 OFF-SITE STORAGE

The Contractor shall make arrangements for, bear any use costs associated with, and obtain written permission from the Engineer prior to using any off-site storage or shop areas or facilities determined necessary for execution of the Work. Storage facilities shall be equipped with fences and/or lockable entries that will prevent entry by unauthorized parties. Before off-site storage facilities are placed in use, the Contractor shall provided the Owner keys or combinations to locking devices used to secure the facility.

01580.6 COOPERATION WITH OTHER CONTRACTORS

Prior to authorizing other contractors to work on or adjacent to the Work site, the Owner shall notify the Contractor in writing and provide the name and address of the contractor, the name of its supervisor, a description of the work to be performed, and a schedule which shows the dates and planned segments of the work to be completed by the other contractor. In the event that conflicts or interferences occur between the Contractor and the other contractor's operation, the Engineer shall be notified immediately. The Engineer shall then take appropriate action needed to resolve the problem.

DIVISION 2

SITework

02000.1 DESCRIPTION

This section describes preparatory work and materials necessary for obtaining clearances for the Work; moving personnel, equipment, supplies and incidentals to the Project Site; quality control; clean-up; temporary utilities and quarters; permits, bonds and insurance; visual records; waste and rubbish disposal and control; sanitation; and project close-out operations.

02000.1.1 RELATED WORK AND REFERENCED SECTIONS

Section 01200 - Contract Closeout

02000.1.2 SUBMITTALS**02000.1.2.1 VISUAL RECORDS - The Contractor shall furnish at least one copy of all visual records, as described below in 02000.3.2, to the Owner. If the Owner has more exacting requirements for visual records, those requirements shall be detailed in the Special Provisions to these Specifications.****02000.1.3 DEFINITIONS**

Video Record - Photography on videocassette tapes of areas potentially liable for disturbance as a result of the Work required by this Contract.

02000.2 MATERIALS**02000.2.3 VISUAL RECORD**

Records shall be made on professional quality, standard VHS format videotape. Tapes shall be provided with protective covers and shall be labeled to indicate the area covered by the photography.

02000.3 CONSTRUCTION REQUIREMENTS**02000.3.1 VISUAL RECORDS**

Prior to any disturbance of the area, the Contractor shall produce a video photography of all areas, including but not limited to storage areas, construction sites, and buildings or structures, which will be, or may be, affected by the Work. Such photography will be of a quality to allow accurate determination of location, size, and condition of existing features and improvements taken prior to any occupancy or execution of Work by the Contractor.

02000.4 METHOD OF MEASUREMENT

02000.4.1 Not used.

02000.5 BASIS OF PAYMENT

02000.5.1 No separate payment will be made for Mobilization. Include the cost for this work in the contract price for the storefront replacements.

02500.1 DESCRIPTION

This work includes removal of the specified storefront door systems and storefront vestibules and the disposal of materials and debris.

02500.1.1 RELATED WORK

Section 01510 - Protection of Existing Improvements

02500.1.3 DEFINITIONS

Not used.

02500.2 MATERIALS

02500.2.1 Not used.

02500.3 CONSTRUCTION REQUIREMENTS**02500.3.1 REMOVE EXISTING DOORS AND HARDWARE**

02500.3.1.1 Remove doors and all associated hardware for each door from the storefront entrance and the storefront vestibule entrance.

2500.3.2 REMOVE STOREFRONT ENTRANCE SYSTEM

2500.3.2.1 Remove entire storefront entrance and storefront vestibule entrance. Exercise care and prudence during the removal process to minimize damage to existing floors, walls, and ceilings and respective finishes. Repair and or restore damaged areas.

2500.3.2.2 Dispose of all metal, glass, and waste materials and debris etc. from the removal process.

02500.4 METHOD OF MEASUREMENT

02500.4.1 Not used.

02500.5 BASIS OF PAYMENT

Not separate payment will be made to remove existing storefront door systems. Include this work in the contract price for the storefront replacements

DIVISION 8

DOORS AND WINDOWS

SECTION 08 413

ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To:
 - 1. Furnish and install aluminum storefront entry and window systems, including automatic openers, Manual and electronic locking system, hardware, glazing, and calking, as described in Contract Documents.
- B. Related Sections:
 - 1. Section 02500: Remove Existing Storefront Doors
 - 2. Section 08710: Door Hardware
 - 3. Section 08810: Glass Glazing
 - 4. Section 16750: Access Control System

1.2 REFERENCES

- A. Aluminum Association (AA):
 - 1. DAF-45 Designation System for Aluminum Finishes.
- B. American Architectural Manufacturers Association (AAMA):
 - 1. 501.2 Field Check of Metal Curtain Walls for Water Leakage.
 - 2. 2605 Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels.
 - 3. 606.1 Specifications and Inspection Methods for Integral Color Anodic Finishes for Architectural Aluminum.
 - 4. 607.1 Specifications and Inspection Methods for Clear Anodic Finishes for Architectural Aluminum.
 - 5. 608.1 Specification and Inspection Methods for Electrolytically Deposited Color Anodic Finishes for Architectural Aluminum.
 - 6. 701.2 Specifications for Pile Weatherstripping.
 - 7. Manual #10 Care and Handling of Architectural Aluminum From Shop to Site.
 - 8. SFM-1 Aluminum Storefront and Entrance Manual.
- C. American National Standards Institute (ANSI):
 - 1. A117.1 Safety Standards for the Handicapped.
- D. American Society for Testing and Materials (ASTM):
 - 1. A36 Structural Steel.
 - 2. A123 Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - 3. B209 Aluminum and Aluminum - Alloy Sheet and Plate.
 - 4. B221 Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.
 - 5. B308 Aluminum-Alloy 6061-T6 Standard Structural Shapes, Rolled or Extruded.
 - 6. E283 Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors.
 - 7. E330 Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.
 - 8. E331 Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.

1.3 SUBMITTALS

- A. Product Data:
 - 1. Manufacturer's literature or cut sheets for storefront system and for each item of hardware.
 - 2. Include information for factory finishes, electronic locking system, automatic door openers, hardware, accessories, and other required components.
 - 3. Include color charts for finish indicating manufacturer's standard colors available for selection.
 - 4. Maintenance, adjustment, and repair instructions.
 - 5. Parts lists.
- B. Shop Drawings:
 - 1. Submit shop drawings covering fabrication, installation and finish of specified systems.
 - 2. Include following:
 - a. Fully dimensioned plans and elevations with detail coordination keys.
 - b. Locations of exposed fasteners and joints.
 - 3. Provide detailed drawings of:
 - a. Composite members.
 - b. Joint connections for framing systems and for entrance doors.
 - c. Anchorage.
 - d. System reinforcements.
 - e. System expansion and contraction provisions.
 - f. Glazing methods and accessories.
 - g. Internal sealant requirements and recommended types.
 - 4. Schedule of finishes.
- D. Samples:
 - 1. Submit manufacturers standard samples indicating quality of finish.
 - 2. Where normal texture or color variations are expected, include additional samples illustrating range of variation.
 - [3. Submit samples for each type of glass, 12 x 12 inch size.]
- E. Qualification Data:
 - 1. Submit installer qualifications verifying years of experience.

1.4 QUALITY ASSURANCE

- A. Pre-Installation Meeting:
 - 1. Schedule and coordinate a pre-installation meeting with the Owner.
 - 2. Make certain rough openings are within tolerances required for installation of factory-fabricated frames.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Coordinate delivery, and storage of products with Owner.
- B. Protect finished surfaces as necessary to prevent damage.
- C. Do not use adhesive papers or sprayed coatings which become firmly bonded when exposed to sun.
- D. Do not leave coating residue on any surfaces.
- E. Replace damaged units.

1.6 WARRANTY

- A. Provide warranties in accordance with Contract Documents.
- B. Provide written warranty in form acceptable to Owner jointly signed by manufacturer, installer and Contractor warranting work to be watertight, free from defective materials, defective workmanship, glass breakage due to defective design, and agreeing to replace components which fail within 1 year from date of Substantial Completion.
- C. Warranty shall cover following:
 - 1. Complete watertight and airtight system installation within specified tolerances.
 - 2. System is structurally sound and free from distortion.

PART 2 - PRODUCTS

2.1 COMPONENTS

- A. Frames:
 - 1. Aluminum: 6063-T5 aluminum alloy or meeting requirements of ASTM B 221, alloy GS 10A-T5 or T6) (3/16 inch wall thickness).
 - 2. Mullion: Steel reinforced or heavy duty as necessary to prevent lateral flexing of mullion.
 - 3. Sills: Match height of door bottoms.
 - 4. Sealer Tape: 3M.
 - 5. Fasteners: Aluminum or non-magnetic stainless steel. Concealed fastenings shall be cadmium or zinc-plated steel.
 - 6. Finish: Match doors.
 - 7. Approved Products.
 - a. Double Glazed:
 - 1) Trifab '451' by Kawneer.
 - 2) Series FG3000 2x4-1/2 by Vistawall.
- B. Doors:
 - 1. Double doors with mullion. 3.5 ft wide and standard 7 ft height.
 - 2. Removable mullion for 12 ft x 14 ft storefront and vestibule at building west entrance only.
 - 3. Aluminum: 6063 T5 aluminum alloy, or meeting requirements of ASTM B 221, alloy GS 10A-T5 or T6.
 - 4. Stiles: 6 inches by 2 inches by 0.188 inches thick nominal .
 - 5. Top Rails: 8 inches minimum by 2 inches by 0.188 inches thick nominal.
 - 6. Bottom Rails: 10 inches minimum by 2 inches by 0.188 inches thick nominal.
 - 7. Construction: Manufacturer's standard.
 - 8. Glazing Stops: Snap-in type with neoprene bulb-type glazing. Units shall be glazed from exterior side.
 - 9. Weatherstripping:
 - a. Neoprene bulb-type.
 - b. Approved Products.
 - 1) Sealair by Kawneer
 - 2) D125 by Vistawall
 - 10. Finish:
 - a. Polyvinylidene Fluoride (PVF₂) Resin-base finish (Kynar or Hylar) containing 50 percent minimum PVF₂ in resin portion of formula and providing a pencil hardness of 3H. Thermocured two-coat system consisting of corrosion inhibiting epoxy primer and topcoat factory-applied over properly pre-treated metal.
 - 11. Approved Products.
 - a. 350 Medium Stile by Kawneer.
 - b. Series 375 by Vistawall.

- C. Glazing Characteristics
 - 1. Interior Vestibule Glazing: Clear.
 - 2. Exterior Storefront Doors And Sidelights Openings Into Foyers And Corridors: Clear interior pane and Clear exterior pane with Low E treatment on surface 2.
- D. Approved Manufacturers.
 - 1. Kawneer, Norcross, GA Paul Cannon (801) 201-1080, FAX 801-768-4588
paul.cannon@kawneer.com.
 - 2. Vistawall, Terrell, TX Kent Baumann (800) 869-4567 ext 386, FAX 972-551-6264
kbaumann@vistawall.com.

2.2 FINISHES

- A. Finishes for steel, brass, or bronze hardware items shall be US26D, Chromium plated, satin. Materials other than steel, brass, or bronze shall be finished to match the appearance of US26D.

2.3 FABRICATION

- A. Fabricate in factory to dimensions required to fit framed openings detailed on Drawings. Joints shall be tightly closed.
- B. Mortise in manner to give maximum hardware-door connection strength and neatness of appearance. Adequately reinforce with backplates or rivnuts to hold pivots and closers.

PART 3 - EXECUTION

3.1 INSTALLERS

- A. Provide certification that storefront installers have at least 5 years experience with this type of storefront door system.

3.2 EXAMINATION

- A. Site Verification Of Conditions: Field verify that framed openings will accommodate factory-fabricated storefront entry and window frames of dimensions agreed upon by Owner and Manufacturer. Do not install storefront entry and window frames until deficiencies in framed openings have been corrected to allow installation of standard entries and windows.

3.3 INSTALLATION

- A. Accurately cut thresholds to fit profile of storefront frame. Bed exterior thresholds in specified sealant at contact points with floor and make watertight.
- B. Use sealer tape to prevent electrolytic action.
- C. Set plumb, square, level, and in correct alignment and securely anchor. If used, line up horizontal rail in sidelight with door rail. Anchor storefront system to framed opening as per storefront system manufacturer's recommendations.
- D. Adjust doors for proper operation after glazing door and storefront. Calk joints between frames and walls, both interior and exterior.

- E. Install storefront door systems and storefront vestibules in a manner that would minimize damage to existing floor, wall and ceiling finishes. Restore damaged finished surfaces back to original finish.

3.4 FIELD QUALITY CONTROL

- A. Site Tests: Pull test doors, especially pairs of single doors separated by permanent mullions, to ensure security of opening.

END OF SECTION

SECTION 08 710

DOOR HARDWARE

PART I – GENERAL

1.01 SUMMARY

A. SECTION INCLUDES

1. The work in this section includes furnishing all items of finish hardware as hereinafter specified or obviously necessary for all swinging, sliding, folding and other doors. Except items, which are specifically excluded from this section of the specification or of unique hardware, specified in the same sections as the doors and frames on which they are installed.

B. RELATED DOCUMENTS

1. Related documents, drawings and general provisions of contract, including General and Supplementary Conditions and Division 1 specification sections apply to this section.

C. RELATED SECTIONS

1. 08413 – Entrances and Storefronts
2. 16750 – Access Control System

1.02 REFERENCES

A. STANDARDS

1. ANSI A156.1 – Butts and Hinges
2. ANSI A156.2 – Bored Locks and Latches
3. ANSI A156.3 – Exit Devices
4. ANSI A156.4 – Door Controls – Door Closers
5. ANSI A156.5 – Auxiliary Locks and Associated Products
6. ANSI A156.6 – Architectural Door Trim
7. ANSI A156.7 – Template Hinge Dimensions
8. ANSI A156.8 – Door Controls – Overhead Holders
9. ANSI A156.13 – Mortise Locks and Latches
10. ANSI A156.15 – Closer Holder Release Devices
11. ANSI A156.16 – Auxiliary Hardware
12. ANSI A156.18 – Material and Finishes
13. ANSI A156.19 – Power Assist and Low Energy Power Operated Doors
14. ANSI A156.21 – Thresholds
15. ANSI A156.22 – Door Gasketing and Edge Seal Systems
16. ANSI A156.23 – Electromagnetic Locks
17. ANSI A156.24 – Delayed Egress Locking Systems
18. ANSI A156.25 – Electrified Locking Devices
19. ANSI A156.26 – Continuous Hinges
20. ANSI A156.29 – Exit Locks, Exit Locks with Exit Alarms, Exit Alarms, Alarms for Exit Devices
21. ANSI A156.30 – High Security Cylinders
22. ANSI A156.31 – Electric Strikes and Frame Mounted Actuators
23. NFPA 80 – Fire Doors and Windows
24. UL10C – Positive Pressure Fire Tests of Door Assemblies
25. AIA A201 1997 – General Conditions of the Contract

B. CODES

1. NFPA 101 – Life Safety Code
2. IBC 2003 – International Building Code
3. ANSI A117.1 – Accessible and Usable Buildings and Facilities
4. ADA – Americans with Disabilities Act

1.03 SUBMITTALS

A. GENERAL REQUIREMENTS

1. Submit copies of finish hardware schedule in accordance with Division 1, General Requirements.

B. SCHEDULES AND PRODUCT DATA

1. Schedules to be in vertical format, listing each door opening, and organized into “hardware sets” indicating complete designations of every item required for each door opening to function as intended. Hardware schedule shall be submitted within two (2) weeks from date the purchase order is received by the finish hardware supplier. Furnish four (4) copies of revised schedules after approval for field and file use. Note any special mounting instructions or requirements with the hardware schedule. Schedules to include the following information:
 - a. Location of each hardware set cross-referenced to indications on drawings, both on floor plans and in door and frame schedule.
 - b. Handing and degree of swing of each door.
 - c. Door and frame sizes and materials.
 - d. Keying information.
 - e. Type, style, function, size, and finish of each hardware item.
 - f. Elevation drawings and operational descriptions for all electronic openings.
 - g. Name and manufacturer of each hardware item.
 - h. Fastenings and other pertinent information.
 - i. Explanation of all abbreviations, symbols and codes contained in schedule
 - j. Mounting locations for hardware when varies from standard.
2. Submit catalog cuts and/or product data sheets for all scheduled finish hardware.
3. Submit separate detailed keying schedule for approval indicating clearly how the owner’s final instructions on keying of locks has been fulfilled.

C. SAMPLES

1. Upon request, samples of each type of hardware in finish indicated shall be submitted. Samples are to remain undamaged and in working condition through submittal and review process. Items will be returned to the supplier or incorporated into the work within limitations of keying coordination requirements.

D. TEMPLATES

1. Furnish a complete list and suitable templates, together with finish hardware schedule to contractor, for distribution to necessary trades supplying materials to be prepped for finish hardware.

E. ELECTRONIC HARDWARE SYSTEMS

1. Provide complete wiring diagrams prepared by an authorized factory employee for each opening requiring electronic hardware, except openings where only magnetic hold-open devices are specified. Provide a copy with each hardware schedule submitted after approval.
2. Provide complete operational descriptions of electronic components listed by opening in the hardware submittals. Operational descriptions to detail how each electrical component functions within the opening incorporating all conditions of ingress and egress. Provide a copy with each hardware schedule submitted for approval.
3. Provide elevation drawings of electronic hardware and systems identifying locations of the system components with respect to their placement in the door opening. Provide a copy with each hardware schedule submitted for approval.
4. Prior to installation of electronic hardware, arrange conference between supplier, installers and related trades to review materials, procedures and coordinating related work.
5. The electrical products contained within this specification represent a complete engineered system. If alternate electrical products are submitted, it is the responsibility of the distributor to bear the cost of providing a complete and working system including re-engineering of electrical diagrams and system layout, as well as power supplies, power transfers and all required electrical components. Coordinate with electrical engineer and electrician to ensure that line voltage and low voltage wiring is coordinated to provide a complete and working system.
6. For each item of electrified hardware specified, provide standardized molex plug connectors to accommodate up to twelve (12) wires. Molex plug connectors shall plug directly into through-door wiring harnesses, frame wiring harnesses, electric locking devices and power supplies.

F. OPERATIONS AND MAINTENANCE MANUALS

1. Upon completion of construction and building turnover, furnish two (2) complete maintenance manuals to the owner. Manuals to include the following items:
 - a. Approved hardware schedule, catalog cuts and keying schedule.
 - b. Hardware installation and adjustment instructions.
 - c. Manufacturer's written warranty information.
 - d. Wiring diagrams, elevation drawings and operational descriptions for all electronic openings.

1.04 QUALITY ASSURANCE

A. SUBSTITUTIONS

1. All substitution requests must be submitted before bidding and within the procedures and time frame as outlined in Division 1, General Requirements. Approval of products is at the discretion of the architect and his hardware consultant.

B. SUPPLIER QUALIFICATIONS

1. A recognized architectural door hardware supplier who has maintained an office and has been furnishing hardware in the project's vicinity for a period of at least two (2) years.
2. Hardware supplier shall have office and warehouse facilities to accommodate this project.

3. Hardware supplier shall have in his employment at least one (1) Architectural Hardware Consultant (AHC) who is available at reasonable times during business hours for consultation about the project's hardware and requirements to the owner, architect and contractor.
4. Hardware supplier must be an authorized factory distributor of all products specified herein.

1.05 FIRE-RATED OPENINGS

1. Provide door hardware for fire-rated openings that comply with NFPA 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed by Underwriter's Laboratories (UL) or Warnock Hersey (WH) for use on types and sizes of doors indicated.
2. Project requires door assemblies and components that are compliant with positive pressure and S-label requirements. Specifications must be cross-referenced and coordinated with door manufacturers to ensure that total opening engineering is compatible with UL10C Standard for Positive Pressure Fire Tests of Door Assemblies.
 - a. Hardware required for fire doors shall be listed with Underwriters Laboratories for ratings specified.
 - b. Certification(s) of compliance shall be made available upon request by the Authority Having Jurisdiction.

1.06 DELIVERY, STORAGE AND HANDLING

A. MARKING AND PACKAGING

1. Properly package and mark items according to the approved hardware schedule, complete with necessary screws and accessories, instructions and installation templates for spotting mortising tools. Contractor shall check deliveries against accepted list and provide receipt for them, after which he is responsible for storage and care. Any shortage or damaged good shall be made without cost to the owner.
2. Packaging of door hardware is the responsibility of the supplier. As hardware supplier receives material from various manufacturers, sort and repackage in containers clearly marked with appropriate hardware set and door numbers to match the approved hardware schedule. Two or more identical sets may be packed in same container.

B. DELIVERY

1. The supplier shall deliver all hardware to the project site; direct factory shipments are not allowed unless agreed upon beforehand. Hardware supplier shall coordinate delivery times and schedules with the contractor. Inventory door hardware jointly with representatives of hardware supplier and hardware installer/contractor until each is satisfied that count is correct.
2. No keys, other than construction master keys and/or temporary keys are to be packed in boxes with the locks.
3. At time of hardware delivery, door openings supplier in conjunction with the contractor shall check in all hardware and set up a hardware storage room.

C. STORAGE

1. Provide secure lock-up for door hardware delivered to the Project, but not yet installed. Control handling and installation of hardware items that are not immediately replaceable so that completion of work will not be delayed by hardware losses both before and after installation.

1.07 WARRANTY

- A. All items, except as noted below, shall be warranted in writing by the manufacturer against failure due to defective materials and workmanship for a minimum period of one (1) year commencing on the date of final completion and acceptance. In the event of product failure, promptly repair or replace item with no additional cost to the owner.

1. Cylindrical locksets – Heavy Duty: Seven (7) years
2. Mortise locksets: Seven (7) years
3. Exit Devices: Five (5) years
4. Door closers: Ten (10) years

PART II – PRODUCTS

2.01 MANUFACTURERS

- A. Only manufacturers as listed below shall be accepted. Obtain each type of finish hardware (hinges, latch and locksets, exit devices, door closers, etc.) from a single manufacturer.

2.02 MATERIALS

A. SCREWS AND FASTENERS

1. All required screws shall be supplied as necessary for securing finish hardware in the appropriate manner. Thru-bolts shall be supplied for exit devices and door closers where required by code and the appropriate blocking or reinforcing is not present in the door to preclude their use.

B. HANGING DEVICES

1. HINGES

- a. Hinges shall conform to ANSI A156.1 and have the number of knuckles as specified, oil-impregnated bearings as specified with NRP (non-removable pin) feature, at all exterior reverse bevel doors. Unless otherwise scheduled, supply one (1) hinge for every 30" of door height. Hinges shall be a minimum of 4 1/2" high and 4" wide; heavy weight hinges (.180) shall be supplied at all doors where specified.

- 1) Specified Manufacturer: McKinney
- 2) Approved Substitutes: Hager, Stanley

2. ELECTRIC HINGES

- a. Electric hinges shall be provided with molex standardized plug connectors to accommodate up to twelve (12) wires. Plug connectors shall plug directly into molex through-door wiring harnesses for connection to electric locking devices and power supplies. Provide sufficient number of concealed wires to accommodate electric function of specified hardware. Provide a mortar guard for each electric hinge specified.

- 1) Specified Manufacturer: McKinney QC Series
- 2) Approved Substitutes: Hager, Stanley

3. MONITORING SWITCH HINGES

- a. Monitoring switch hinges to be magnetic reed, concealed, adjustable switch type with extra heavy magnet.

- 1) Specified Manufacturer: McKinney MM Series
- 2) Approved Substitutes: Hager EMN Series, Stanley CS Series

4. CONTINUOUS GEARED HINGES

- a. All hinges to be non-handed and completely reversible. Hinge line to be available in concealed flush mount with or without inset, full surface and half surface types as specified in the hardware sets. All hinges to be made of extruded 6060 T6 aluminum alloy with polyacetal thrust bearings, anodized after cutouts are made for bearings. All concealed hinges to be fire-rated for 20, 45 and 90 minutes when incorporated into proper door and frame labeled installations, without necessitating the use of fusible-link pins. All concealed hinges to be available in standard, heavy, and extra heavy duty weights; all full surface and half surface hinges in standard and heavy duty weights as specified in the hardware sets. All hinges to be factory cut for door size.

- 1) Specified Manufacturers: McKinney
- 2) Approved Manufacturers: Markar, Pemko

C. FLUSH BOLTS AND ACCESSORIES

1. All manual and automatic flush bolts to be furnished as specified.

- a. Specified Manufacturer: McKinney
- b. Approved Substitutes: Quality, Rockwood, Trimco

2. ELECTRIC KEY CABINET

- a. Need Specification and Key Control Software Information

- 1) Specified Manufacturer: Morse Watchman
- 2) Approved Substitutes: None

D. LOCKING DEVICES

1. MORTISE LOCKSETS

- a. All locksets shall be ANSI 156.13 Series 1000, Grade 1 Certified. All functions shall be manufactured in a single sized case formed from 12 gauge steel minimum. The lockset shall have a field-adjustable, beveled armored front, with a .125" minimum thickness and shall be reversible without opening the lock body. The lockset shall be 2 3/4" backset with a one-piece 3/4" anti-friction stainless steel latchbolt. The deadbolt shall be a full 1" throw

made of stainless steel and have 2 hardened steel roller inserts. All strikes shall be non-handed with a curved lip. To insure proper alignment, all trim, shall be thru-bolted and fully interchangeable between rose and escutcheon designs.

- 1) Specified Manufacturer: Sargent 8200 Series
- 2) Approved Substitutes: Corbin Russwin ML2000 Series, Schlage L9000 Series

2. CYLINDRICAL LOCKSETS – HEAVY DUTY

- a. All locksets shall be ANSI 156.2 Series 4000, Grade 1 Certified. Furnish with standard 2 3/4" backset. Lock housing shall be fabricated of steel zinc dichromate and stainless steel. Latchbolt shall be brass or stainless steel with a minimum 1/2" throw. Locks shall be non-handed and fully field reversible.

- 1) Specified Manufacturer: Sargent 10 Line LL
- 2) Approved Substitutes: Corbin Russwin CL3300 NZD, Schlage ND RHO

E. ELECTRIC STRIKES

1. STANDARD STRIKES

- a. All standard electric strikes shall meet BHMA standard 501, grade 1 and be UL Listed for Burglary Resistance, category 1034. Strikes shall be all stainless steel construction for corrosion resistance, strength and durability. Strikes shall have been tested to withstand a forcing strength of a minimum 2400 lbs. before releasing and perform with a minimum of one million cycles of operation. Strikes shall be 24VDC fail-secure unless otherwise specified. Provide an in-line power controller with all electric strikes.

- 1) Specified Manufacturers: HES 5900
- 2) Approved Substitutes: None

2. SURFACE MOUNTED STRIKES

- a. All surface mounted electric strikes shall meet BHMA standard 501, grade 1 and be UL Listed for Burglary Resistance, category 1034. Strikes shall have two heavy-duty, stainless steel locking mechanisms operating independently to provide tamper resistance. Optional latchbolt and latchbolt strike monitoring that indicates position of the latchbolt and locked condition of the strike shall be available. Strikes shall have been tested for a minimum of 500,000 operating cycles. Provide an in-line power controller with all electric strikes.

- 1) Specified Manufacturers: HES 9500 Genesis
- 2) Approved Substitutes: NONE

F. ELECTROMAGNETIC LOCKS

1. MAGNALOCKS

- a. Magnalocks shall operate on 24VDC input and shall not consume more than three (3) watts of power (125mA @ 24VDC). The magnalock shall be capable of providing a pull-apart or tensile holding force of at least 1200 pounds. The strike plate shall be mounted using a steel sex bolt and roll pin to provide a "floating" movement to assure automatic

self-alignment with the lock. Anti-tamper caps shall be provided for the exposed holes. The lock and strike shall be plated to provide corrosion proofing. The lock shall be full sealed in resin to make it tamper and weather proof. The lock shall contain a suppression circuit to prevent residual magnetism and inductive kickback. The circuit also shall provide accelerated field collapse and radiation suppression. Ten feet of jacketed stranded conductor shall be provided for electrical connection.

- 1) Not approved

G. EXIT DEVICES

1. CONVENTIONAL DEVICES – PUSH RAIL

- a. All exit devices shall be ANSI A156.3, Grade 1 Certified and shall be listed by Underwriters Laboratories and bear the UL label for life safety in full compliance with NFPA 80 and NFPA 101. Mounting rails shall be formed from a solid single piece of stainless steel, brass or bronze no less than 0.072" thick. Push rails shall be constructed of 0.062" thick material. Lever trim shall be available in finishes and designs to match that of the specified locksets.

- 1) Specified Manufacturer: Sargent 8800 Series
- 2) Approved Substitutes: Corbin Russwin ED5200 Series, Von Duprin 98L Series

2. ELECTRIFIED DEVICES

- a. Electrified exit devices shall conform to all traditional exit device standards as specified above. All power requirements for exit devices used must utilize a continuous circuit electric hinge for clean design and no visible means of interrupting power to device.
- b. Options for delayed egress exit devices to be specified in the hardware sets. Devices to conform to NFPA 101 - Special Locking Arrangements for delayed egress. Nuisance delay to be available as standard for either zero (0) or two (2) seconds. Internal latchbolt monitoring, and a standard 10-second delay for "Authorized Entry" to be standard features on every device. Delayed egress feature to be available throughout all styles and sizes of exit devices including: Panic and Fire rated Rim, Wide and Narrow Stile, Mortise, Surface Vertical Rod, and Concealed Vertical Rod.
- c. All exit devices, both fire labeled and non-labeled devices, requiring electric dogging shall be held in the "dogged" or retracted position. All exit devices with electric latch retraction shall provide for a remote means of unlocking for momentary or maintained periods of time.
- d. Exit devices with electrified trim shall be fail-secure unless otherwise specified.
- e. Where specified exit devices shall be provided with a switch to monitor push rail or signal remote location and latchbolt monitoring.

- 1) Specified Manufacturers: Sargent 55-56-8800 Series
- 2) Approved Manufacturers: None

H. DOOR CLOSERS

1. SURFACE MOUNTED CLOSERS – HEAVY DUTY

- a. All door closers shall be ANSI 156.4, Grade 1 Certified. All closers shall have aluminum alloy bodies, forged steel arms, and separate valves for adjusting backcheck, closing and latching cycles and adjustable spring to provide up to 50% increase in spring power. Closers shall be furnished with parallel arms mounting on all doors opening into corridors or other public spaces and shall be mounted to permit 180 degrees door swing wherever wall conditions permit. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
 - 1) Specified Manufacturer: Sargent 351 Series
 - 2) Approved Substitutes: Norton 7500 Series, LCN 4041 Series

2. AUTOMATIC DOOR OPERATORS – HEAVY DUTY

- a. All door closers shall be ANSI 156.19, Grade 1 Certified. Units shall have adjustments for door closing force and backcheck, motor assist from 0 to 30 seconds, motor start up delay, vestibule interface delay, electric lock delay, and door hold open delay up to 30 seconds. Operator units shall provide conventional door closer opening and closing forces unless the power operator motor is activated by an initiating device with door closer assembly having adjustable spring size, backcheck valve, sweep valve, latch valve, speed control valve, and pressure adjustment valve to control door closing. Operators shall have push and go function to activate power operator or power assist functions. Units shall have a presence detector input to prevent a closed door from opening or a door that is fully opened from closing and shall have a hold open toggle input to allow remote activation for indefinite hold open; door shall close the second time the input is activated. Operators shall have a SPDT relay for interfacing with latching or locking devices. All controlling operator switches shall be of radio-frequency design and not hard-wired.
 - 1) Specified Manufacturer: Sargent MPower 4000 Series
 - 2) Approved Substitutes: Besam Power Swing, Norton 6900 Series

I. DOOR TRIM AND PROTECTIVE PLATES

- 1. Kick plates shall be .050 gauges and two (2) inches less full width of door, or as specified. Push plates, pull plates, door pulls and miscellaneous door trim shall be as shown in the hardware schedule.
 - a. Specified Manufacturer: McKinney
 - b. Approved Substitutes: Quality, Rockwood

J. DOOR STOPS AND HOLDERS

1. WALL MOUNTED DOOR STOPS

- a. Where a door is indicated on the plans to strike flush against a wall, wall bumpers shall be provided. Provide convex or concave design as indicated.
 - 1) Specified Manufacturers: McKinney
 - 2) Approved Substitutes: Quality, Rockwood

2. OVERHEAD STOPS/HOLDERS

- a. Where specified, overhead stops/holders as shown in the hardware sets are to be provided. Track, slide, arm and jamb bracket shall be constructed of extruded bronze and

shock absorber spring shall be of heavy tempered steel. Overhead stops shall be of non-handed design.

- 1) Specified Manufacturers: Rixson 1/2/9/10 Series
- 2) Approved Substitutes: Sargent 690/1530/590/1540 Series

3. MAGNETIC HOLD-OPENS

- a. Magnetic door holders shall meet or exceed ANSI A156.15 and be UL listed 228 for Door Closer and Holders, with or without integral smoke detectors. Holding force shall be 25 to 40 pounds and shall be fail-safe. Pushpin release that eliminates residual magnetism shall be standard. Provide magnetic hold-opens with triple-voltage coil that can receive 12 VDC, 24 VAC/DC, or 120VAC; or coordinate required voltage with electrical.

- 1) Specified Manufacturers: Rixson
- 2) Approved Substitutes: HES, Sargent

K. GASKETING AND THRESHOLDS

1. Provide continuous weatherseal on exterior doors and smoke, light, or sound seals on interior doors where indicated or scheduled. Provide intumescent seals as required to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies. Provide only those units where resilient or flexible seal strip is easily replaceable and readily available from stocks maintained by manufacturer.
2. Provide threshold units not less than 4" wide, formed to accommodate change in floor elevation where indicated, fabricated to accommodate door hardware and to fit door frames. All threshold units shall comply with the Americans with Disabilities Act (ADA).

- a. Specified Manufacturers: McKinney
- b. Approved Substitutes: Pemko, Reese, Zero

L. SILENCERS

1. Furnish rubber door silencers all hollow metal frames; two (2) per pair and three (3) per single door frame.

M. ELECTRONIC PRODUCTS AND ACCESSORIES

1. INTEGRATED KEYPAD OPERATED PRODUCTS

- a. Shall integrate with TAC INET See Division 13000, 16000 or 28000.

- 1) Specified Manufacturers: Utah Controls
- 2) Approved Manufacturers: None

2. INTEGRATED KEYPAD/PROXIMITY CARD PRODUCTS

- a. Shall integrate with TAC INET See Division 13000, 16000 or 28000.

- 1) Specified Manufacturers: Utah Controls
- 2) Approved Manufacturers: None

3. KEYSWITCHES

- a. Keyswitches shall be furnished on a stainless steel single gang face plate with a 12/24VDC bi-color LED and an integral backing bracket that shall permit integration with any 1.25" or 1.125" mortise cylinder. Keyswitches shall be available for momentary or maintained action and in narrow stile designs.

- 1) Specified Manufacturers: Securitron MK Series
- 2) Approved Manufacturers: Folger Adams

4. IN-LINE POWER CONTROLLER

- a. Where specified, electrified products shall be supplied with an in-line power controller that enables the hardware to operate from 12 to 32 volts. On board safety features shall include an in-line fuse to protect the hardware and host system from any possible reverse current surges. The controller shall regulate current to provide continuous duty operation without the typical heat build up.

- 1) Specified Manufacturers: HES 2005 Smart-Pac II
- 2) Approved Manufacturers: NONE

5. POWER SUPPLIES

- a. Power supplies shall furnish regulated 24VDC and shall be UL class 2 listed. LED's shall monitor zone status (voltage/no voltage) and slide switches shall be provided to connect or disconnect the load from power; 1, 4 or 8 separate output circuit breakers shall be provided to divide the load. Power supplies shall have the internal capability of charging optional 24VDC sealed lead acid batteries in addition to operating the DC load. Power supplies shall be supplied complete requiring only 120VAC to the fused input and shall be supplied in an enclosure. Power supplies shall be provided with emergency release terminals that allow the release of all devices upon activation of the fire alarm system.

- 1) Specified Manufacturer: Securitron BPS
- 2) Approved Substitutes: Folger Adams

2.03 FINISHES

- A. The designations used in schedules and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18 or traditional U.S. finishes shown by certain manufacturers for their products.
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.
- C. Where specified hardware shall have an antimicrobial coating which permanently suppresses the growth of bacteria, algae, fungus, mold and mildew applied. The finish shall control the spread and growth of bacteria, mold and mildew and shall be FDA listed for use in medical and food preparation equipment.

PART III – EXECUTION

3.01 EXAMINATION

- A. Contractor shall ensure that the building is secured and free from weather elements prior to installing interior door hardware. Examine hardware before installation to ensure it is free of defects.

3.02 INSTALLATION

- A. Mount hardware units at heights indicated in the following applicable publications, except as specifically indicated or required to comply with the governing regulations.
 - 1. "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute (DHI.)
 - 2. NWWDA Industry Standard I.S.1.7, "Hardware Locations for Wood Flush Doors."
- B. All hardware shall be applied and installed in accordance with best trade practice by an experienced hardware installer. Care shall be exercised not to mar or damage adjacent work.
- C. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Where cutting and fitting is required to install hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation or application of surface protection with finishing work specified in the Division 9 Sections. Do not install surface-mounted items until finishes have been completed on the substrates involved.
- D. Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.03 FIELD QUALITY CONTROL

- A. The Contractor shall comply with AIA A201 1997 section 3.3.1 which reads as follows: "The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the contract Documents give other specific instructions concerning these matters."
- B. Prior to the installation of hardware, manufacturer's representatives for locksets, closers, and exit devices shall arrange and hold a jobsite meeting to instruct the installing contractor's personnel on the proper installation of their respective products. A letter of compliance, indicating when this meeting is held and who is in attendance, shall be sent to the Architect and Owner.
- C. The hardware supplier shall do a final inspection prior to building completion to ensure that all hardware was correctly installed and is in proper working order.
- D. The manufacturer's representative shall do a final inspection prior to building completion to ensure that all hardware was correctly installed and is in proper working order.

3.04 ADJUSTING, CLEANING, AND DEMONSTRATING

- A. Adjust and check each operating item of hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate freely and smoothly or as intended for the application made.
- B. Where door hardware is installed more than one month prior to acceptance or occupancy of a space or area, return to the installation during the week prior to acceptance or occupancy and

make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore to proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.

- C. Instruct owner's personnel in the proper adjustment and maintenance of door hardware and hardware finishes and usage of any electronic devices.

3.05 PROTECTION

- A. Contractor shall protect all hardware, as it is stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.

3.06 HARDWARE SCHEDULE

- A. The following schedule is furnished for whatever assistance it may afford the Contractor; do not consider it as entirely inclusive. Should any particular door or item be omitted in any scheduled hardware heading, provide door or item with hardware same as required for similar purposes. Hardware supplier is responsible for handing and sizing all products as listed in the hardware heading. Quantities listed are for each pair of doors, or for each single door.

B. Manufacturer's Abbreviations:

1. CR – Corbin Russwin
2. HS – HES
3. MC – McKinney
4. NO – Norton
5. RX – Rixson
6. SA – Sargent
7. SC - Schlage
8. SN – Securitron

END OF SECTION

SECTION 08 810

GLASS GLAZING

PART 1 - GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To:
 - 1. Quality of glazing used in entries and windows.
- B. Related Sections:
 - 1. Section 08 4113: Furnishing and installing of glazing in aluminum-framed storefront.

1.2 REFERENCES

- A. American Society For Testing And Materials:
 - 1. ASTM C 1036-01, 'Standard Specification For Flat Glass.'
 - 2. ASTM C 1048-04, 'Standard Specification For Heat-Treated Flat Glass - Kind H, Kind FT Coated and Uncoated Glass.'
 - 3. ASTM E 774-97, 'Standard Specification for Sealed Insulating Glass Units.'

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements: Glazing shall meet applicable requirements of Federal Consumer Product Safety Standard 16CFR1201.
- B. Manufacturer's Labels: Labels showing strength, grade, thickness, type, and quality are required on each piece of glass.

PART 2 - PRODUCTS

2.1 MATERIAL

- A. Exterior Window Glazing:
 - 1. Thickness: 1/8 inch minimum, Double Strength.
 - 2. Glazing shall have following characteristics:
 - a. Clear: ASTM C 1036, Type I, Class I, Quality q3.
 - b. Pyrolytic Low E:
 - 1) Performance Standard: Energy Advantage Clear by LOF.
 - 2) Type One Acceptable Manufacturers:
 - a) AFG
 - b) LOF
 - c) PPG
 - d) Visteon.
 - e) Other low E glazing system standard with window manufacturer that meets or exceeds performance characteristics of specified glazing is acceptable as approved by Architect before bidding. See Section 01 6000.
 - c. Obscure: ASTM C 1036, Type II, Class I, Form 3, Quality q8, Pattern #62.
 - d. Glazing in windows within 24 inches of exterior doors shall be tempered meeting requirements of ASTM C 1048, Kind FT, Condition A, Type I, Class I, Quality q3.

- B. Storefront Glazing:
 - 1. Thickness: 1/4 inch.
 - 2. Glazing shall have following characteristics:
 - a. Clear: ASTM C 1036, Type I, Class I, Quality q3.
 - b. Pyrolytic Low E:
 - 1) Performance Standard: Energy Advantage Clear by LOF.
 - 2) Type One Acceptable Manufacturers:
 - a) AFG
 - b) LOF
 - c) PPG
 - d) Visteon.
 - e) Equal as approved by Architect before bidding. See Section 01 6000.
 - c. Obscure: ASTM C 1036, Type II, Class I, Form 3, Quality q8, Pattern - #62.
 - d. Glazing below door height shall be tempered meeting requirements of ASTM C 1048, Kind FT, Condition A, Type I, Class I, Quality q3.

2.2 MANUFACTURERS

- A. Contact Information for Low E Glazing Manufacturers:
 - 1. AFG Industries, Kingsport, TN www.afg.com.
 - 2. Pilkington Libby-Owens-Ford - LOF, Toledo, OH www.pilkington.com.
 - 3. PPG Industries, Pittsburgh, PA www.ppgglass.com.
 - 4. Visteon, Allen Park, MI www.visteon.com/floatglass/

2.3 FABRICATION

- A. Except where glass exceeds 66 inches in width, cut clear glass so any wave will run horizontally when glazed.
- B. Install muntins for exterior aluminum entries and aluminum windows between panes of insulating glazing units. No muntins on interior Vestibule storefront entries.
- C. Sealed, Insulating Glazing Units:
 - 1. Double pane, sealed insulating glass units meeting requirements of ASTM E 774, Class A. Install at exterior windows and exterior aluminum-framed storefront.
 - 2. Unit Thickness: 5/8 inch minimum, one inch maximum.
 - 3. Insulated obscure units shall consist of one pane of specified obscure glass and one pane of standard glass.
 - 4. Type Seal:
 - a. Metal-to-glass bond and separated by 1/2 inch dehydrated air space.
 - b. Use non-hardening sealants.
 - 5. Approved Fabricators.
 - a. Members of Sealed Insulating Glass Manufacturer's Association.

PART 3 - EXECUTION: Not Used

END OF SECTION

DIVISION 16

ELECTRICAL

SECTION 16750

ACCESS CONTROL SYSTEM

PART 1 GENERAL

1.01 SYSTEM DESCRIPTION

The Security Management System specified shall be fully integrated and installed as a complete package by the Access/Security Control Contractor. The SMS shall be able to provide for and integrate (*if required*) the following subsystems:

- Integrated Access Control.
- Alarm Monitoring.
- Alarm/Facility Graphics Display.
- Associated Access Control and Alarm Equipment Control.
- Multiple Language Operation
- Multiple Tenant Operation
- Access Initiated and Event Initiated Control
- Elevator Control
- Workstation and associated equipment, as required.

The SMS shall be based upon a distributed system of fully intelligent, stand-alone controllers, operating in a multi-tasking, multi-user environment on a true peer-to-peer, token passing Local Area Network (LAN). The SMS shall be capable of monitoring, recording, and displaying card access activity and supervised alarm inputs/outputs on a continuous, real time basis. Each installation shall comply with local, state, and federal code requirements as applicable.

The SMS shall be capable of providing access control and alarm monitoring capabilities for large and small facilities. The system shall be user friendly, providing a user interface that allows for training of non- technical personnel to effectively operate and administer the system.

The SMS shall be designed to provide a centralized location with the ability to monitor, control, view, and communicate from a secure location within a facility.

System expansion capability: Minimum 100% over specified requirements.

1.01A SYSTEM CAPACITIES

Total number of Hosts: 1 Host

Total number of optional Hosts / Workstations: 62

Total number of optional Backup Workstations: = total number of workstations

Support for up to 409,000 readers using either magnetic-strip, Wiegand, infrared bar code, proximity, Biometrics, Pinpad technologies, touch memory technologies or user definable custom card formats.

Support for up to 6,120,000 unique ID records.

Support alarm monitoring of up to 1,638,400 supervised digital input points.

Support for 1,638,400 output control points

Support for 5,000,000 on-line transaction history records with ability to archive history limited only to hard disk space.

Support for up to 1100 system passwords

Support for Ethernet Lan: TP (10 Base-T) Twisted pair, AUI (10 Bases) Thicknet, BNC (10 Base-2-default) Thinnet.

Support for TCP/IP protocols

1.01B SYSTEM CAPABILITIES

The following functional capabilities are considered essential for the Security Management System described in this specification:

- A. Integrated Access Control
- B. Intrusion Detection
- C. Door Control
- D. Elevator Control
- E. First Key Auto Unlock
- F. Anti-Passback control
- G. Alarm Assessment (Instructions)
- H. Database Security And Encryption
- I. Maps Displaying Alarm Points
- J. If/Then/and/or/not functions
- K. Time Scheduled Events
- L. Access Control initiated events
- M. Calculations
- N. Windows Based, Mouse oriented operations
- O. Dial – Up Alarm processing from remote locations
- P. Dial – Up processing of Access Control functions for remote locations
- Q. Integrated Video Badging and user configurable, automatic image verification
- R. Ability to Import and Export cardholder data
- S. Comprehensive User Definable Reports for transactions, alarms, messages and events
- T. Comprehensive User Definable Database Reports
- U. Comprehensive User Definable Archiving
- V. Visitor Management
- W. Two Man Rule
- X. Support for OPC, DDE and ODBC technologies
- Y. Ability to be WEB enabled

1.02 RELATED WORK

1.02A DOOR HARDWARE

Not specifically covered under this specification. Shall appear under Division 8 if applicable.

1.02B WIRING / CABLE SPECIFICATIONS

NOTE: Coaxial wiring for data communications is not acceptable.

All wiring for Distributed Control Unit communications and all wiring for related sub-LAN controller communications shall be Belden 9184 or equivalent. Belden 9841 or equivalent may be used for LAN lengths not exceeding 4000 ft. (1220m).

All other cable is to meet the following requirements as outlined below:

- UL Listed
- NEC approved
- Plenum rated where required
- All cabling shall be shielded unless specified otherwise by a card access manufacturer.
- As a minimum, standard 18 AWG cable shall be installed unless in direct conflict with manufacturers specifications
- All cabling used in the implementation of systems integration shall be in accordance with the recommendations of the manufacturer.

Provide specialist personnel for the complete wiring installation. Provide cables, conduits, cable tray and ancillary equipment necessary to complete the installation. Refer to Division 16 for

additional requirements.

1.02C GROUNDING

Take particular attention to the grounding of equipment cases and shielded cables to eliminate noise interference and avoid electrical loops. **Provide shielded cable for all communications cabling.** Correctly terminate shields at ground bars and connect to the main building ground or as specified by the manufacturer.

- Insulate all incoming or outgoing shielded cables from control cabinet casings.
- Provide suitable terminals, where grounding of cable shields is required.
- Make provision of a through connection of cable shields for through connected communications cables.

1.02D PROGRAMMERS

Experienced in SMS and in the field of security services to suit the application. Carry out the complete design and programming of the installation in the local office of the system supplier.

1.03A MATERIALS

Furnish and install at locations shown, the specified equipment to provide a completely operational Access Control/Security Management system. The following list of main items of the installation shall not be considered to be all-inclusive:

- A. Cameras, lenses, and accessories (mounts, enclosures, pan/tilt motors etc.)
- B. Door hardware and accessories
- C. Readers
- D. Monitors
- E. Distributed Control Units (DCU's) – Main Controller
- F. Door Processing Units (SCUs) – Main Door Controllers
- G. Miscellaneous cable, wire, associated connectors, and hardware
- H. Power supplies

All materials and equipment shall be standard, regularly manufactured equipment.

All systems and components shall be thoroughly tested and proven in actual field use.

All system main control components shall be from one manufacturer.

1.04 QUALITY ASSURANCE

System manufactures shall have implemented a Quality System that complies with the **ISO9001 model**. Factory owned System Integrators shall be able to exhibit a commitment to gaining **ISO9002** accreditation or shall have an existing accreditation in place. A factory owned office that is also ISO 9001/ISO 9002 certified or an authorized distributor of the manufacturer shall install the SMS equipment. Any other installers will not be acceptable bidders for this project.

Evidence of the Quality System Audits may be requested.

1.05 WARRANTY PERIOD

A. GENERAL

Provide maintenance of the system during the warranty period with the following minimum provisions:

- Notify building owner's representative prior to performing any maintenance work.
- The designated representative to monitor and report on equipment performance and service history, and to be a liaison with the building owner.
- Conditions: The warranty shall cover any defects in materials and workmanship including installation and programming which shall be found during the term. This shall include any deficiencies in installation standards vis-à-vis the specifications.
- Response: The contractor shall respond to calls for warranty service within eight working

- hours. Emergency service shall be obtainable within four hours of notification by the Owner. Emergency service shall be obtainable on a 24 hours basis, seven days per week.
- Qualifications: The contractor shall utilize factory-trained technicians located within 100 miles of the job site.

PART 2 PRODUCTS

2.01 GENERAL

A. Acceptable manufacturers:

1. Security access system:

- A. Base: I/NET Seven as manufactured by TAC Inc.
- B. Optional Integration/Compatible

B. Installer qualification:

1. General: The product submitted for bid shall be Installed by a firm with the following minimum qualifications:

- A. The firm shall be ISO 9001 certified. Utah-Yamas Controls Inc.

C. Substitutions

1. No substitutes

The exact make and model number identified in this specification shall be provided without exception.

2.02 SECURITY MANAGEMENT SYSTEMS

GENERAL REQUIREMENTS

System administration shall be available from any workstation in the system. The system specifically must have the capability to support not less than 48 workstations connected on the network at the same time. The Security Management System shall support distributed processing such that all connected workstations function in a true multi-user, multi-tasking environment. The system shall not be dependent on a Server therefore Client / Server based systems are unacceptable.

The system architecture shall be capable of supporting single sites and/or campuses as well as multiple sites located in different geographical locations.

The Operating System shall be based upon a Microsoft Windows 2000 Professional platform and/or Microsoft Windows XP Professional. Unacceptable operating systems include Windows 95, Windows 98, Windows ME, Windows NT4, Windows NT5, OS/2 and UNIX operating systems.

The system shall co-exist with the Microsoft Office Suite of applications.

The system shall employ a non-proprietary, open, highly scalable database based on Microsoft SQL.

The system shall support OPC and DDE technologies.

The system shall be capable of modular expansion without software upgrades or wiring revisions.

For international applications, the system shall be able to support different languages.

2.02.1 SOFTWARE

A. PC MINIMUM REQUIREMENTS

Pentium IIII – 1.2GHZ

512 MB Ram - File Master 256 MB Ram - workstation (equalization client)

40 gig. Hard Drive
3.5 Floppy Drive / CD – RW Drive for data archiving
17" Video Monitor w/display 800 X 600
Appropriate Windows Operating System
Sound card/speakers for audible alarms

B. GENERAL

The Contractor shall provide all software required for efficient operation of all the automatic system functions required by this specification. Software shall be modular in design for flexibility in expansion or revision of the system. It is the intent of this specification to require provisions of a system that can be fully utilized by individuals with no, or limited, previous exposure to PC's and programming techniques and languages. If the system to be provided requires the use of any modified BASIC, C, PASCAL, or DRUM language program, or writing "line" programming statements to modify operation or strategy in the system, the vendor shall provide unlimited, no charge, software modification and support for a period of five years after the completion of the project in addition to the warranty period specified elsewhere. Systems that are factory programmed are unacceptable.

The software shall include a general-purpose operating system, as well as access control system application software. All available vendor workstation application software shall be provided with the system, and shall reside in each and every PC. Unbundled software packages where the vendor can charge the user extra fees, require dedicated workstations, or require systems rebooting for access are unacceptable.

The software in the system shall consist of both "firmware" resident in the controllers and "software" resident in the operator workstations. The architecture of the system, and the application software/firmware shall be distributed with no single-system component responsible for a control function for the entire controller LAN. Each controller resident on the controller LAN shall contain the necessary firmware and I/O capability to function independently in case of a network failure. No active control sequences shall be resident in the PC workstations. All PC workstations shall be removable from the system without loss of control function -- only alarm monitoring, long-term history collection, and operator monitor/command/edit functions would be lost.

The primary operator interface to the system shall be through a graphical, "object oriented", interactive presentation using a mouse and cursor for object selection and commands.

The system software shall support an operator definable "default" system page. The default system page shall be displayed upon system start-up, operator activity time-outs, and when the system is not in use. This default system page may be any one of the standard dynamic graphic pages or a custom display developed for this purpose. The operator shall be able to display their corporate logo, emergency information, etc. as the default system page.

The system software shall support "pop-up" windows for point commands. On selecting an object with the cursor, a window shall open up to present the operator with choices corresponding to the operator's password authorizations. These point commands shall include state changes, manual override of application software, test mode activation and test value entry. This window shall include, for reference, the point's descriptor (name), the point's hardware address, and alarm status.

The system software shall support "pop-up" windows for point editing. On selecting an object with the cursor, a window shall open up to present the operator with a list of active point database editors, if permitted by the operator's password level. Selecting one of these editors shall allow the operator to modify the basic parameters associated with a point, as well as access any programs assigned to the point (such as time schedules, calculations, events, etc.).

The system software shall be based upon interactive prompts and choices using "dialog boxes,"

as opposed to memorization of commands, "syntax", exact spellings, etc. This interactive prompt and choices approach shall be used in monitoring, issuing commands, and editing. Command choices shall be as simple as "clicking" the cursor over the correct word choice prompts (i.e., SECURE, UNLOCK), without typing in the letters. Editing mode choices shall prompt with ranges or options (i.e., 16 CHARACTERS for a point name, or OPEN, CLOSE for an action).

The system software shall support a "zoom" function. It shall be possible for an operator to locate any system point to monitor status, issue commands, or edit associated database without knowledge of the point's name, address, or associated controller, and without having to refer to a "tree" directory. The operator shall be able to zoom in on a building in a campus graphic, zoom in on a floor in a building graphic, zoom in on a door in a floor plan graphic, etc.

The system software shall be compiled for faster execution speeds and shall offer all of the following features and capabilities:

- Input / Output Capabilities: From any local PC workstation or any remotely connected PC workstation, the system operator shall have the capabilities through the keyboard/mouse to request dynamic displays of current values or status using a tabular or graphic format. A global database sort utility shall allow an expanded tabular display of only the points on the current graphic display. This expanded tabular display shall list point name, hardware address, dynamic state or value, alarm status, override status, and test mode status.
- Obtain a summary of all access control doors with status (under access control, access control disabled, or access control ignored) and allow issuing commands to the access control doors to manually force the door to one of the above states, or provide a momentary release (act as a valid key/card access), or return to automatic control (remove manual state).
- Add, delete, or change points within each Controller or application routine while on-line.
- Change point I/O descriptors, status, and alarm descriptors and engineering unit descriptors while the system is on-line.
- Add new Controllers and sub-controllers to the system while the system is on-line.
- Develop, modify, delete or display full range of color graphic displays providing dynamic, animated displays. All development, editing and display work shall be capable of being performed with the system fully on-line and in full communications with the Controllers and sub-controllers.
- To enhance system response the database shall be distributed with up to 48,000 ID records residing in each door-processing unit. Each DCU (distributed control unit) shall support a combination of up to 64 subLAN controllers consisting of DPU's (Door processing unit), DIU's (digital input units), DIO's (digital input/output units) or MR's (micro-control units). Each DPU and DCU shall be capable of providing full access control decision capabilities and monitoring of assigned input/output alarm points whether on or off-line with host computer.

2.02.2 DATABASE CREATION AND SUPPORT

A. GENERAL

The intent of this specification is to provide an ACS system that will allow the owner to independently perform his own modifications to the system from any operator workstation. All changes shall be done utilizing standard procedures, and must be capable of being done while the system is fully on-line and operational.

The DCU on the Controller LAN shall automatically check a PC workstation's database files upon connection to verify a current database match. A utility shall inform the operator if the DCU's database files do not match the backup files stored on the PC workstation, along with the date of the last DCU modification and date of the last backup. The owner must have, as a minimum, the on-line capability to:

- Add, Delete and Modify and points and parameters.
- Determine which PC workstation(s) will receive alarms, messages & transactions on a point by point / door-by-door basis.
- Change, add, or delete English language descriptors (i.e., name). System I/O points may be identified either by name or by it's logical address. Up to 16 characters shall be available for the English language descriptor, which shall be used in all control sequences. Use of a

- second abbreviated point "name" for control sequences is unacceptable complexity.
- Add, modify, or delete alarm limits.
- Add, modify, or delete points in start/stop programs, trend logs, etc.
- Create and/or modify override parameters.
- Add, modify, and delete any applications program.
- Create custom relationship between points. A general-purpose user utility shall be provided, such that the user can implement software interlocks, calculations, etc.
- Assign application programs to points (as opposed to assigning points to programs).
- Obtain an "audit trail" of which application programs are controlling an individual point, on a point-by-point basis.

2.02.3 DOOR PARAMETERS

Provide a door parameters editor, which shall include the following options:

- Reader technology selected.
- User definable Wiegand reader formats between 26 and 66 bit.
- If the reader is for the cab of an elevator (lift).
- If the reader is used for "exit" (pushbutton exit being the default), and if so, whether the exit reader is used for continuous egress or is linked to the Mode Schedule of an "entry" reader.
- The minimum time (in seconds) allowed between successive "reads". Used to adjust traffic flow rates through portals such as turnstiles.
- The polarity of the reader's LED used to indicate a good read, etc.
- Whether anti-passback (APB) is implemented or not.
- What the entry zone number is (APB).
- What the exit zone number is (APB).
- Whether the door sense switch is used, and if so whether it is a normally open (NO) or normally closed (NC) contact.
- Whether the Request to Exit (RTE) is used, and if so whether it is a normally open (NO) or normally closed (NC) contact.
- Whether a shunt function is used.
- Whether the door-locking device (e.g., an electric strike) is used, and if so, whether it is activated for entry requests, exit requests, or both.
- How long the locking device will be unlocked after an authorized read or RTE pushbutton operation. The unlock interval shall be adjustable from 1 to 255 seconds.
- "First Key Auto-Unlock" shall be available to provide additional security for doors that implement access control after hours and automatically unlock the doors on a time schedule during the day. This feature does not unlock the door until an authorized key is read after the scheduled unlock time. If this feature is not used, the door is unlocked per the Door Mode Schedule, regardless of key activity.
- "Door Prop" alarm timer setting. This setting shall ignore the door monitor switch input for alarming during the timer interval. The timer shall be adjustable (operator selectable) from 1 to 7200 seconds.

2.02.4 SYSTEM PASSWORDS

To limit control by the system operators, the SMS shall support system passwords at both the host level and controller level.

- The host passwords shall limit user access and privileges to provide system level security. A password shall be required to "log on" to the system. The SMS host shall support up to 1,100 passwords. It shall be possible to enable or disable each and every individual function of the SMS on a password-by-password basis using a simple point and click operation. Each password shall allow a 30-character operator name, a 10-character alphanumeric password, and 4 characters for the operator initials.
- System passwords time out after a user-defined period of time.
- Automatic expiration of passwords as set by system administrator.
- Non re-use of system passwords
- Screen settings and system configurations are remembered based on password log in.
- User configurable ID card log on in lieu of keyboard log on.
- The controller passwords shall restrict user access and privileges to system controllers. The

controller passwords shall support 4 levels:

- Level 1 – Display only access
- Level 2 – Display controller data, issue commands, acknowledge alarms.
- Level 3 – Display data, issue commands, acknowledge alarms and edit all functions except the DCU password function.
- Level 4 - Display data, issue commands, acknowledge alarms and edit all functions, including the DCU password function.

2.02.8 ACCESS CONTROL PERSONNEL DATABASE

A. GENERAL

Provide a personnel database that shall reside in the PC workstation, and have access control functions downloaded to the Controller and DPU for remote, standalone operation. Where the system consists of multiple PCs on a Commercial LAN, changes to the Personnel Database in one PC workstation shall be equalized among all ACS workstations, automatically. All changes shall be done utilizing standard procedures and must be capable of being done while the system is on-line and operational. The ACS system shall employ a user-friendly "re-cycle bin" feature which is intended to protect the owner from accidental or incidental deletions of the cardholder or personnel database.

The owner must have as a minimum, the on-line capability to:

- Add, delete, modify and copy new ID devices (keys, cards, I/DISCs) and link these to the Personnel Database.
- Assign information to the Personnel Database including the ID #, Last Name, First name, Group Name, and 16 other user defined fields. The user shall be able to define the Field Name for the user-defined fields and field database entries of 16 alphanumeric characters. In a multi-tenant system, individual authorized tenants shall be able to assign different field names to their respective Personnel Databases.
- Video badging
- Assign status to a card, which may be permanent (not a visitor), temporary (a visitor), or disabled (entered into the database, but not enabled). For cards designated as temporary, allow the operator to pre-determine the activation schedule based upon the following entries:
 - Begin date (MM/DD/YY)
 - Begin time (HH:MM)
 - End date (MM/DD/YY)
 - End time (HH:MM)

Provide a means for the user to define the content and order of data presented in the Personnel Database editor specifically, provide the ability to set the sort order on any field and filter and sort the data within any field. The following options shall be available to the operator:

- Permanent records - include/exclude
- Temporary records - include/exclude
- Disabled records - include/exclude
- Display Order - allows the operator to select from key/card #, Last name, First name, Group, or any of the user defined 16 fields as the basis for the primary ordering of the presentation display. For instance if the custom field "Social Security #" were selected, the individuals would be presented in order of the alphanumeric sort of the Social Security #.
- Key/card range - Displays only ID #'s between the low and high values entered.
- ASCII text parameters - For each of the 16 custom fields, allows the entry of up to 16 characters for matching and sorting, including the wild card characters of ? and *. * shall be the default and support all entries (a wide open filter)
- Anti-passback options whether hard, soft, or graded.

Provide a means to assign doors to designated tenants, groups, and individuals. Assign individuals to doors associated with the tenant that the individual is a part of and the group that individual is apart of.

Provide a means to assign Mode Schedules to doors, that determine when the door is under access control, when the door is unlocked, and when the door is locked (even against authorized access control devices). Also, an Anti-Passback reset trigger may be assigned to the door mode schedule to cancel and purge anti-passback "flags" set previously (i.e., the previous day).

Provide a means to assign Personnel Schedules to doors, that determine when (date and time) authorized personnel are permitted access to designated doors. Each personnel schedule shall support seven access intervals, each with a start and stop time (time slice). Provide a seven-day week plus seven "special" days and two temporary days for each personnel schedule. Provide the ability to assign up to 31 personnel schedules per door.

Provide a means to assign personnel to "Groups" which consist of a combination of doors and associated personnel schedules. The user shall be able to assign individuals to groups to save keystrokes and manages organizational changes. Different tenants shall be able to assign different groups to their respective access control databases.

B. SECURITY

In order to ensure security of the Personnel Database and permit encryption of selectable tables within the Personnel Database the Security Management System will utilize the security functionality contained in Windows 2000 Professional and/or Windows XP Professional.

2.2.0 HARDWARE SPECIFICATIONS - 1284 DOOR CONTROLLERS

The quantities and types of door controllers shall be determined by the contractor based upon the requirement to provide a fully operational system, as per the intent of the specification, as shown on the drawings and recommended by the manufacturer. As a minimum, the following features shall be supported in each Door Processing Unit:

- 24000 users per Door (48000 per DPU)
- Support for 255 tenants
- Support for 2 doors per DPU
- Standalone Access Control Logic
- Real Time Clock/Calendar
- Resident Day & Date Based Logic
- Central Control and Monitoring
- First Entry Auto Unlock
- Zoned Anti-Passback (Local DPU level & Global across LAN)
- Elevators: one or two cabs, each with one reader.
- Multi-tenant support
- Multi-drop RS485 communications
- Fiber optic compatible
- On-board battery charger
- One dedicated tamper input
- Dip switch addressable (0-31)
- Support for supervised inputs
- Supported readers technologies:
 - I/DISC Touch Memory
 - Magnetic Key & Card
 - ABA (Track 2)
 - Wiegand (26 & 32 bit)
 - Proximity
 - Watermark Magnetics
 - Biometrics

2.2.1 CONTROLLER OPERATION

Distributed Access Control downloads all "local" access control parameters from the Host PC to the Door Processing Interface (DPI) and then to the Door Processing Unit, so that it may operate in a standalone basis. This ensures rapid access processing and minimal dependence on a single

point of failure. As a standalone controller, the DPU provides access to one or two doors. Support for a door monitor input, locking mechanism output, secondary alarm bypass output, and a request to exit input are provided for each door. Optionally, the second reader may be used for door exiting. When the door is controlled by two readers, anti-passback operation is available. As a distributed network controller the DPU allows centralized alarm monitoring, historical data collection, zoned anti-passback,

First Entry Auto Unlock allows the door to automatically unlock during the day based upon a time and day schedule (Modes) in the DPU. However, this feature ensures that the door is not unlocked until at least one "authorized" person has arrived, following occupancy time.

2.8.0 HARDWARE SPECIFICATIONS NETPLUS ROUTER (NPR)

The quantities and types of controllers shall be determined by the contractor based upon the requirement to provide a fully operational system, as per the intent of the specification, as shown on the drawings and recommended by the manufacturer. As a minimum, the following features shall be supported in each NETPlus Router:

- Provides a modular solution for access through standard commercial LAN/WAN systems.
- Standard TCP/IP communication protocol allowing easy integration of communication into LAN, WAN, Internet, or intranet systems.
- Support for larger number of links (sites) available — up to 6,400.
- Expanded LINK support allows distribution of commercial LAN down to the single-controller environment.
- LAN/WAN point globalization distribution to selected nodes, with user-manageable limits on distribution to minimize traffic.
- Message/alarm/globalization buffering to provide local storage of data until distribution (operates without floppy or hard disk).
- On-board battery protects buffered data in case of power outages.
- Integral and simplified installation, configuration, and checkout tools.
- Diagnostic function to verify operations.
- Optional bracket for mounting on a wall or other vertical surface.
- Ports include:
 - 10BASE-T Ethernet port (RJ45).
 - Local PC port for I/NET host workstation or portable maintenance PC.
 - RS485 synchronous SDLC controller LAN port.

2.8.1 CONTROLLER OPERATION

The NetPlus Router acts partly as a computer and partly as a 7801 or 7802 series tap. Having computer-like processing functionality, the NetPlus Router connects directly to the TCP/IP Ethernet network. Unlike a computer, the NetPlus Router does not require the space a PC does. It does not need a keyboard, a mouse or a monitor, and with its additional Tap capabilities, the NetPlus Router performs multiple functions in one compact, lightweight reliable unit.

Initially, an I/NET host PC must be connected to configure a NetPlus Router. The following configuration parameters can be viewed, edited, copied or modified for Alarm/Message/DocuTrend Routing Map, Point Globalization Map, Host/Link/IP Address Map and Host Interaction Map.

The NetPlus Router database can be uploaded, downloaded and "selectively" copied. Active and passive diagnostics are supported with the NetPlus Router. Firmware and configuration can be downloaded from PC port or LAN/WAN.

2.9.0 HARDWARE SPECIFICATIONS - READERS

The quantities and types of Readers shall be determined by the contractor based upon the requirement to provide a fully operational system, as per the intent of the specification, as shown on the drawings and recommended by the manufacturer. Although some slight differences in configuration of the system can be expected depending upon which product is chosen, the system

must operate in a substantially identical manner from the point of view of the user. It must be possible to mix different card readers, as well as card formats into the same system; Additionally, it must be possible to mix different card readers as well as card formats on the same door controller. As a minimum, the following reader types shall be supported in each Door Controller:
The ACS shall support all of the following access control readers, devices and card technologies:
HID I-Class

END OF SECTION

APPENDIX A

STOREFRONT ENTRANCE DRAWING

DESIGNED BY:

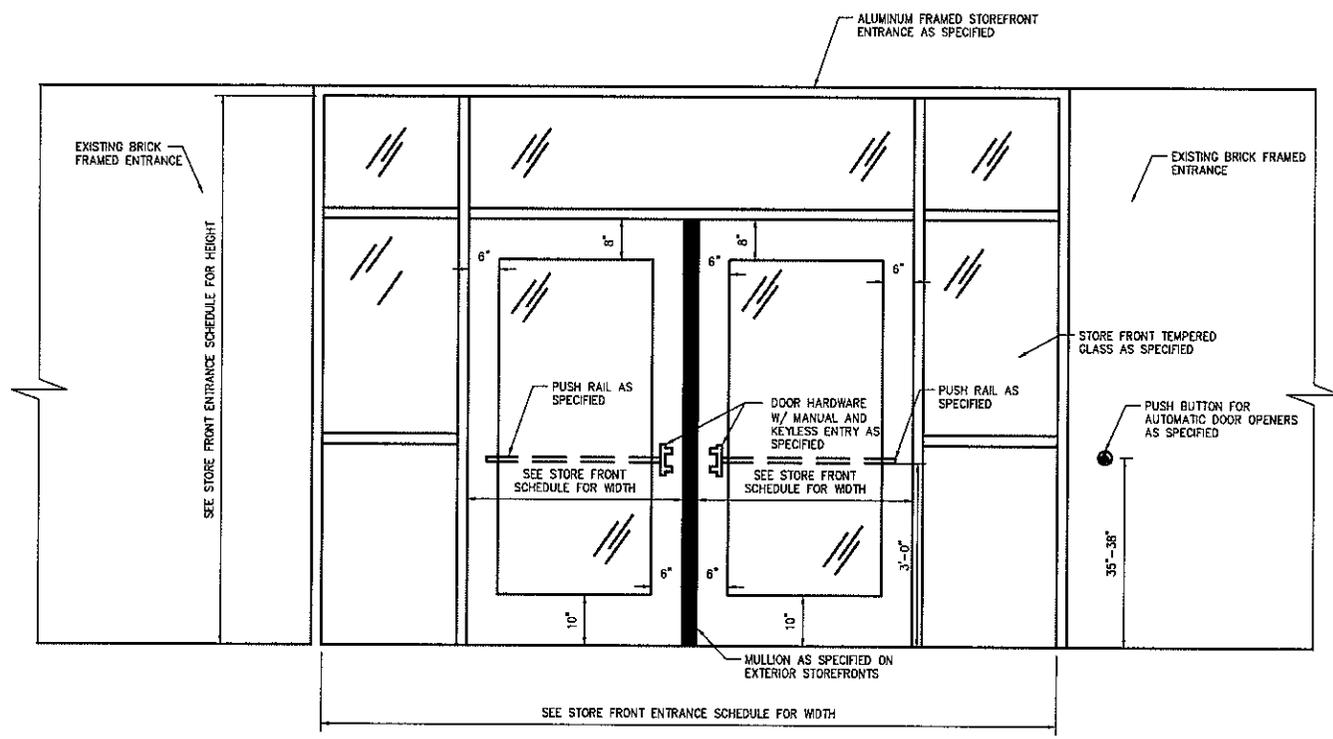
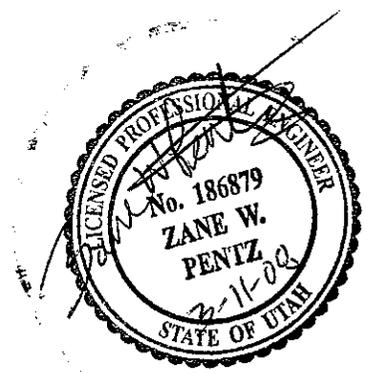


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PROJECT NAME:

**SNOW COLLEGE
 RICHFIELD
 WASHBURN
 BUILDING
 EXTERIOR DOORS**

ENGINEER'S STAMP



**WASHBURN BUILDING
 STOREFRONT ENTRANCE SCHEDULE**

Location	Storefront Entrance** Width / Height	Storefront Vestibule** Width / Height	Entrance Doors	Vestibule Doors
North Entrance*	12 ft / 9 ft	12 ft / 9 ft	Double 42 inch with mullion	Double 36 inch
South Entrance*	12 ft / 9 ft	12 ft / 9 ft	Double 42 inch with mullion	Double 36 inch
West North Entrance*	10 ft / 9 ft	10 ft / 9 ft	Double 42 inch with mullion	Double 36 inch
West South Entrance*	12 ft / 14 ft	12 ft / 14 ft	Double 42 inch with removable mullion	Double 36 inch

*Note: Remove existing storefront entrances and storefront vestibules as specified.

**Note: Dimensions shown are approximate. Contractor shall measure and verify exact dimensions of storefront openings to fit the building framed entrance. Any and all extra costs to return and/or replace products with incorrect dimensions will be paid for at the Contractor's expense.

MARK	DATE	DESCRIPTION

ISSUE DATE:

DPCM PROJECT NO: 07160700

SET PROJECT NO:

CAD DWG FILE

DRAWN BY:

CHECK BY:

COPYRIGHT:

DRAWING TITLE

**STORE FRONT
 ENTRANCE
 ELEVATION**

DRAWING NUMBER

E1

DESIGNED BY:

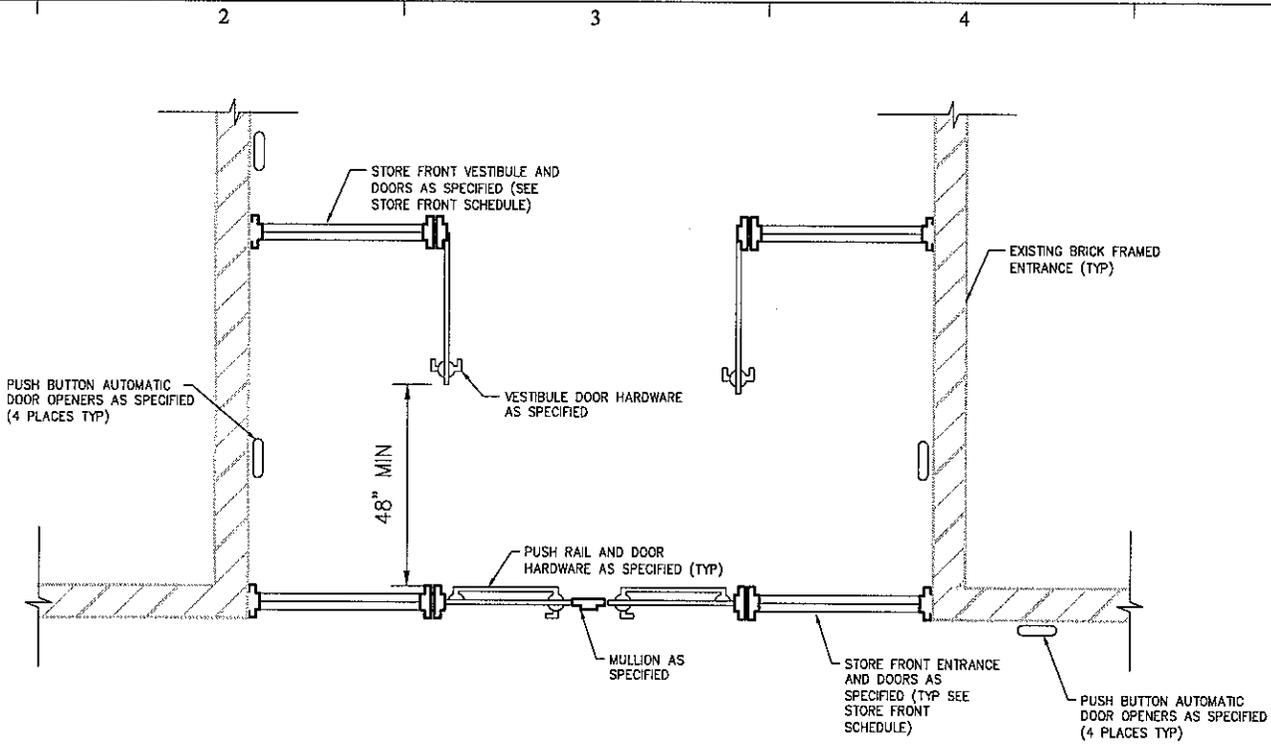
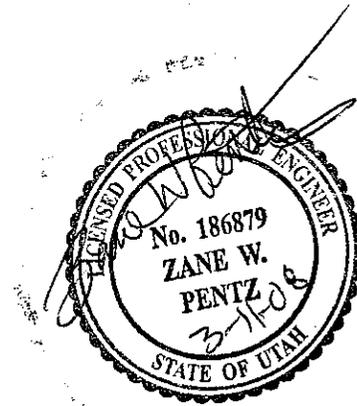


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MARK	DATE	DESCRIPTION

ISSUE TYPE:

ISSUE DATE:

DPCM PROJECT NO: 07160700

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DRAWING TITLE

STORE FRONT
ENTRANCE PLAN

DRAWING NUMBER

P1