

PROJECT MANUAL
FOR
BUILDING ENVELOPE REPAIRS
AT
O'CONNELL MIDDLE SCHOOL
FOR
JEFFERSON COUNTY SCHOOL DISTRICT
February 2013
WJE NO. 2012.4760.4

CONSULTANT:

Mike Groditski, RRC, RRO
Wiss, Janney, Elstner Associates, Inc. (WJE)
3609 S. Wadsworth Blvd., Suite 400
Lakewood, Colorado 80235
(303) 914-4300

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JEFFERSON COUNTY SCHOOLS, DISTRICT NO. R-1

809 QUAIL STREET, BUILDING #4

LAKWOOD, COLORADO 80215

INVITATION TO BID

The following roofing contractors have been pre-qualified for the JEFFERSON COUNTY SCHOOLS BUILDING ENVELOPE REPAIR AT O'CONNELL MIDDLE SCHOOL project dated February 2013.

Alliance Construction Solutions
2725 Rocky Mountain Ave., Suite 100
Loveland, CO 80538
(970) 663-9700
Fax (970) 663-9750

FCI Constructors, Inc.
4001 N. Valley Dr.
Longmont, CO 80501
(970) 535-4725
Fax (970) 535-4867

Himmelman Construction
12560 W. Cedar Dr.
Lakewood, CO 80228
(303) 790-1984
Fax (303) 790-1988

Palace Construction Co., Inc.
7 South Galapago Street
Denver, CO 80223
(303) 777-7999
Fax (303) 698-4195

Roche Constructors, Inc.
361 71st Avenue
Greeley, CO 80634
(970) 356-3611
Fax (970) 356-3619

Krische Constructin, Inc.
605 Weaver Park Road
Longmont, CO 80501
(303) 776-7643
Fax (303) 776-9598

Sealed proposals (single copy) will be received by Jefferson County School District No. R-1 in the Conference Room of Facilities Planning and Design, 809 Quail Street, Building #4, Lakewood, Colorado 80215, until 11 A.M. April 9, 2013.

FOR
BUILDING ENVELOPE REPAIR
O'CONNELL MIDDLE SCHOOL
1275 TELLER STREET, LAKEWOOD, COLORADO
JEFFERSON COUNTY, COLORADO

Bids received after the closing time will be returned unopened. Immediately after said closing time, all bids received will be publicly opened and read aloud in the presence of all interested parties.

Contract Documents will be available at the pre-bid walk-thru, upon payment of a deposit in the amount of Fifty Dollars (\$50.00) for each complete set of Contract Documents. This deposit will be refunded upon return of all Contract Document Drawings and Specifications in good condition within ten (10) days after the opening of bids.

Each bid must be submitted on a form, a specimen copy of which is enclosed in the documents. Loose copies of the Bid Proposal and Bid Bond Forms will be provided for general contractors checking out documents. Do not use Bid Forms provided in the Project Manual. Each bid must be accompanied by a Proposal Guaranty in the amount not less than ten (10%) percent of the total bid price in the form of a bid surety bond issued by a company rated not lower than A in Best's Insurance Guide, latest edition, or have a Best's Financial Rating of X, cashier's check, or certified check drawn on an acceptable bank and payable without qualification to Jefferson County School District No. R-1.

All bids must be sealed and marked in a manner prescribed in the documents. The School District reserves the right to reject any or all bids, to waive all irregularities, and to accept any bid deemed to be in its best interest.

A MANDATORY pre-bid meeting of interested bidders will be held at 1 P.M. on March 22, 2013 starting in the school parking lot. Predetermine location of the school, as walk-thru will start at 1 P.M. SHARP!! Bidders will be allowed to visit the building at any other time for the purpose of detailed inspections.

Further information will be found in the "Instruction to Bidders" in the Contract Documents.

END OF SECTION

INSTRUCTIONS TO BIDDERS

Jefferson County School District No. R-1, State of Colorado, hereinafter called the "Owner", has advertised for bids to be submitted for the construction work specified in the advertisement. Proposals to be entitled to consideration shall be in accordance with the following:

1. EXAMINATION OF SITE and DOCUMENTS

Each Bidder shall visit the site of the proposed work and shall completely inform himself relative to construction hazards, procedure, labor, and all other conditions and factors, local and otherwise, which would affect prosecution and completion of the work and its cost. Such considerations shall include, without limitations, the arrangement and condition of existing structures and facilities; the procedure necessary for maintenance of uninterrupted, safe operation, use and occupancy of existing facilities; the availability and cost of labor; and facilities for transportation, handling and storage of materials and equipment. All such factors shall be properly investigated and considered in the preparation of the bid. Each bidder shall so fully examine the plans and specifications and acquaint himself with their requirements and with the conditions surrounding the construction on the site that he shall be fully familiar with and informed of all facilities, difficulties, and problems associated with or which might be incurred in the prosecution of the work. In case of disagreement between drawings and specifications or within either document itself, the better quality or greater quantity of work shall be figured in the bid (see GC. 6.04). It shall be the responsibility of the Bidder to direct the attention of the Architect and Owner in writing and at least seventy-two (72) hours prior to the time set for the opening of the bids, any seeming inconsistencies, ambiguous requirements, omissions, or any other matter which seems to require explanation, and to request clarification. The submission of a bid shall be taken as prima facie evidence of compliance with this requirement and as an acknowledgment that the Bidder has received all the required documents and has visited the site. There will be no subsequent financial adjustment for lack of such prior information.

2. INTERPRETATION

No oral interpretations will be made by anyone to any Bidder as to the true meaning or requirements of any part of the drawings, specifications or other proposed Contract Documents. Every request for an interpretation shall be made in writing and addressed and forwarded to the Architect and the Owner not later than seventy-two (72) hours before the date fixed for opening of bids. The person submitting the request shall be responsible for its prompt delivery. Every interpretation made to a Bidder will be in the form of an addendum to the Contract Documents, which, if issued, will be sent as promptly as is practicable to all persons to whom the drawings, specifications, and other proposed Contract Documents have been issued. All such addenda shall become part of the Contract Documents and their receipt shall be acknowledged in the Bid Proposal. The Owner will not be responsible for any other explanations or interpretations of the proposed Contract Documents.

3. BID FORMS

Bid forms will be supplied by the Owner. Proposals shall be made upon the forms provided therefor.

Attention is directed to the fact that the Contract Documents contain one complete set of bidding and contract forms; these are sample forms included for the information of Bidders. They are not to be detached from the Contract Documents, filled out or executed.

Special attention is directed to the Form of Bid Bond included in the bidding documents. Additional copies of this form may be secured from the Architect, but the use of this particular form is not mandatory. Any similar standard form of a recognized responsible surety which contains the same stipulations and guarantees, the same execution of the contract and indemnification of the Owner in case of default, will be acceptable.

4. PREPARATION OF BID FORMS

All proposal forms must be prepared in single copy and in conformity with and be based upon and submitted subject to all requirements of the Contract Documents. They must be fully completed with all blanks appropriately filled in. Each bid shall be legibly written or printed in ink on the separate form provided. No alterations in bids, or in the printed forms therefor, by erasures, interpolations, or otherwise will be acceptable unless each such alteration is signed or initialed by the Bidder; if initialed, the Owner may require the Bidder to identify any alteration so initialed. No alteration in any bid, or in the form on which it is submitted, shall be made after the bid has been submitted.

It will be the Bidder's responsibility to secure any and all addenda from the Architect. The Bidder will be required to acknowledge receipt of all addenda. Owner reserves the right to reject any bid which is received which has not been based upon all addenda issued by the Architect.

No Bidder may submit more than one bid. Multiple bids under different names will not be accepted from one firm or association.

The Bidder is required to bid on all alternates and complete all blanks on the bid form. If alternates are called for on a type or method of construction as to which the Bidder does not desire to bid, he shall insert the words "NO BID". In case the Bidder desires to bid on an alternate, he shall set forth in the space provided therefor, the amount to be added or deducted from the base bid or in the event that the Bidder does not desire to make a change from the base bid, he shall so indicate by using the words "NO CHANGE". In the selection of alternates, the Owner reserves the right to select or reject any or all alternates in the proposal if, in the judgment of the Board of Education, or its designees, the best interest of the School District will be so served.

5. BID PERFORMANCE GUARANTIES

Bid security (single copy) in the form of a cashier's check drawn on an acceptable bank or bid bond in the amount of at least ten (10%) percent of the bid price, payable without condition or qualification to Jefferson County School District No. R-1, shall accompany each bid, as evidence of good faith and as a guarantee that if awarded the contract, the Bidder will execute the Contract and give bond as required. The Bidder assumes all responsibility for furnishing acceptable bid security.

Bid security in the form of a bond will be accepted only if from a regularly established firm licensed to write such surety in the State of Colorado and which is rated not lower than A- in Best's Insurance Guide, latest edition, or have a Best's Financial Rating of X.

The bid security of each unsuccessful Bidder will be returned when the Construction Agreement is fully executed. The bid security will be voided but retained by the Owner, if, after the Notice of Contract Award, the Bidder shall enter into a Contract and file a satisfactory performance bond, labor and material payment bond, and certificates of required insurance, all within ten (10) calendar days after the date such notice is given by the Owner. The bid security of the second and third lowest responsible Bidders may be retained for not to exceed forty-five (45) days after opening, pending the execution of the Construction Agreement and submission of bond by the successful Bidder.

This bid security may be retained by the Owner as liquidated damages, if the bid is accepted and a contract thereon is awarded but the successful Bidder fails to enter into a contract in the form prescribed with legally responsible sureties, within ten (10) calendar days after date of Notice of Contract Award is given by the Owner.

The Owner shall require the Bidder to whom a Contract is awarded to furnish to the Owner both Performance and Labor and Material Payment bonds in the amount of one hundred (100%) percent of the Contract price, covering the faithful performance of the Contract and the payment of all obligations arising thereunder, and the Bidder will further provide warranties as required by the specifications or General Conditions.

The bonds shall be executed on the forms included with the Contract Documents (forms shall not be removed from the Contract Documents; Bidders shall obtain original copies of the bond forms from the Owner). Accompanying each bond form shall be a "Power of Attorney" authorizing the attorney in fact to bind the surety company and certified to include the date of the bond.

6. LIST OF SUBCONTRACTORS

The low three (3) bidders shall within twenty-four (24) hours following the bid opening notify the Owner in writing of the entire list of subcontractors and suppliers of labor and material whose quotations he has used in preparation of his bid and whose services he proposes to use in construction of the project. The list must be complete showing all sections in the Construction Documents. Failure to submit such a list may preclude the bid from further consideration by the Owner. The Owner reserves the right to either disclose or not disclose the subcontractor list of the successful Bidder.

Each Bidder shall identify and fully disclose on such list all those subcontractors and suppliers proposed for the work with which the Bidder is connected either directly or indirectly as part owner, participant in profits and losses or in any other manner financially or economically.

7. PERMITS AND FEES

Each contractor shall secure and pay for the legal permits and inspection fees required for the execution of his work. The Owner is exempt from paying certain fees and it will be the contractor's responsibility to acquaint himself with the laws and regulations governing said fees. Attention is directed to the requirements of the General Conditions regarding obtaining permits.

8. TAXES

The Owner is exempt from the collection and payment of state sales and use taxes on any materials, supplies or other equipment used or installed in the work. Some cities and municipalities may charge a local sales or use tax for materials, supplies or equipment picked up by the contractor in that city or municipality for use at a job site outside of that city or municipality. In such cases the contractor, subcontractors and suppliers should have all building materials, supplies and equipment delivered to the job site by common carrier, by conveyance of the seller or by mail in order to be exempt from the local sales or use taxes. The contractor's bid proposal and any agreed upon variations thereof shall include the cost of any such taxes. For state sales and use taxes, it shall be the responsibility of the contractor and each subcontractor to complete and file an "Application for Exemption Certificate" with the Colorado Department of Revenue and submit copies of such Certificate to the Owner upon award of the contract and prior to commencing any work.

9. PREFERENCE FOR LOCAL MATERIALS, LABOR AND RESIDENT BIDDERS

Preference is hereby given to materials, supplies and provisions produced, manufactured or grown in Colorado, quality being equal to articles offered by competitors outside of the state. Each contractor shall comply with the provisions of Colorado Revised Statutes, Sections 8-17-101 and 102, and 8-18-101 and 103 (as amended) giving preference to Colorado labor and materials in the performance of the work.

Preference shall also be given to resident bidders in accordance with provisions of Colorado Revised Statutes, Section 8-19-101 and 102 (1985).

10. SIGNATURE OF BIDDERS

Each Bidder shall sign the bid form and bid bond using his usual signature and giving his full business address. If the Bidder is an individual, he must sign in individual capacity. Bids by partnerships shall be signed with the partnership name followed by the signature and designation of one of the partners or other authorized representative. Bids by corporations shall be signed with the name of the corporation followed by the signature and designation of the president or other person authorized to bind the corporation and attested to by the secretary with corporate seal. Bids by joint ventures shall be signed by each participant in the joint venture or by an authorized agent of each participant. The names of all persons signing should also be typed or printed below the signature.

A bid by a person who affixes to his signature the word "president", "secretary", "agent", or other designation without disclosing his principal may be held to be the bid of the individual signing. When requested by the Owner, evidence of the authority of the person signing shall be furnished.

11. SUBMISSION OF BIDS

Bid Documents shall be enclosed in two envelopes (outer and inner), or one opaque envelope, each of which shall be sealed and clearly labeled "BID DOCUMENTS" and identified with the description of the work to which the proposal applies; the name of the project; the name and address of the Bidder; and the time of opening bids; all in prominent lettering so as to guard against opening prior to the stipulated time. No responsibility shall attach to any employee of the Owner for the premature opening of any bid not prominently identified. The Bidder shall be responsible for placing his firm name and the name and number, if applicable, of the project and the time of the bidding on the outside of such bid envelope.

The Bid Documents shall be submitted at the time and location as noted in the Invitation to Bid. Bids received after the specified time of closing will be returned unopened.

12. WITHDRAWAL OF BIDS

Any Bidder may withdraw his bid if written request for withdrawal signed in the same manner and by the same person who signed the Bid Form is received by the individual of the School District requesting the bids prior to the time established for the opening of the bids.

No Bidder may withdraw his bid for forty-five (45) days after the scheduled time set for the opening thereof, or before award of the Contract, unless said award is delayed for a period exceeding forty-five (45) calendar days.

13. MODIFICATIONS

No oral, telephonic, or telegraphic modifications will be considered.

14. ACCEPTANCE OF BIDS

The Owner reserves the right to accept the bid which in its judgment is the most responsible and best bid or to reject any and all bids and alternatives and to waive or disregard irregularities or informalities in any bid as it may deem to be in the best interest of the School District. The Board of Education or its designees may consider as irregular any bid on which there is an alteration of, or departure from, the bid form. All proposals received after the specified time of closing shall be returned unopened.

Final determination of compliance with specifications will rest with the Owner.

15. TIME OF COMPLETION

It is to be understood that time is of the essence for this Contract and the contractor will be required to perform the work within the allowable time set forth in the Contract. In this connection, attention is directed to the provisions of the General Conditions and Supplementary General Conditions, if any, relative to delays, extensions of time, and liquidated damages. The successful Bidder-contractor shall prepare and submit for the Owner's approval, within ten (10) days after the Notice of Award, a Preliminary Construction Schedule or Schedules that will indicate the time of performance and completion of the various portions of the work and the dates on which the Owner may expect to be allowed to occupy portions of the building. A Detailed Construction Schedule shall be submitted by the Contractor prior to the submission of the first request for payment. No partial payment on account of work performed shall be made until such Detailed Construction Schedule has been approved by the Owner.

The Owner and the Contractor shall agree mutually on any changes in either the schedule or the rate of performance of the work which might either favorably or adversely affect such schedule dates. Unless otherwise specifically agreed in writing, no additional compensation or fee shall be paid by the Owner for any completion of all or any portions of the work earlier than scheduled.

16. APPLICABLE LAWS AND REGULATIONS

Each Bidder shall familiarize himself with all state and local laws, codes, ordinances, and regulations which might in any manner affect the work to be done; the materials to be supplied; the taxes, permits and fees to be paid; or the labor to be employed in and about the work. Any claim of misunderstanding or ignorance on the part of any successful Bidder will not in any way excuse such Bidder from the necessity of full compliance with every such law, code, ordinance, or regulation. All state laws, codes and regulations and local ordinances, which are applicable, shall be complied with including but not limited to those specified in these documents.

17. EVIDENCE OF COMPETENCY

Bidders shall submit within three (3) days, if requested by the Owner such evidence of the Bidder's competency and practical knowledge to do the particular work covered by his proposal and of the Bidder's financial responsibility, resources, experience, organization and equipment to complete the proposed work. Failure to comply with this requirement may result in the rejection of

consideration of such bid. The right is reserved to reject any bid where an investigation of the evidence or information submitted by such Bidder does not demonstrate fully that the Bidder is qualified to properly carry out the terms of the contract.

In determining the Bidder's qualifications, the following factors, among others, will be considered: work previously completed by the Bidder; the qualifications of the proposed subcontractors for their work; Bidder references; and whether the Bidder (a) maintains a permanent place of business; (b) has adequate plant and equipment to do the work properly and expeditiously; (c) has the financial resources to meet all obligations incident to the work; (d) has appropriate technical experience; and (e) has adequate, competent, experienced staff and supervisors who will be committed to the work until completion.

Each Bidder may be required to show that he has handled former work and that no just claims have been prosecuted or are pending against such work. No bid will be accepted from a Bidder who is engaged on any work which would impair his ability to perform or finance this work or other work in progress.

18. INSURANCE

Throughout the life of the contract, the Contractor will be required to carry the types and amounts of insurance named in the General Conditions.

19. CONTRACTOR'S LICENSE

Any successful Bidder may be required by the Owner to obtain the necessary and applicable Contractor's License from all appropriate governmental authorities and if required, shall not allow any subcontractor to commence work on his subcontract until all similar provisions required of the subcontractor have been obtained and approved.

END OF INSTRUCTIONS TO BIDDERS

BID FORM

TO: JEFFERSON COUNTY SCHOOLS, DISTRICT NO. R-1
809 QUAIL STREET, BUILDING NO. 4
LAKEWOOD, COLORADO 80215

FROM: BIDDER _____(COMPANY NAME)
_____ (ADDRESS)

This document constitutes a portion of the bidding requirements to be submitted by the bidder referenced above. "Bidder" acknowledges that he is a corporation organized and existing under the laws of the State of Colorado and that "bidder" presents this proposal to the:

Board of Education
Jefferson County School District, No. R-1
809 Quail Street, Building 4
Lakewood, Colorado 80215

Gentlemen,

The "BIDDER" in compliance with your invitation to bids, dated January 2013 for Dutch Creek Elementary School, JEFFERSON COUNTY SCHOOLS DISTRICT R-1, Lakewood, Colorado; having examined the Contract Documents, the sites of the proposed work, and being familiar with all of the conditions surrounding the proposed work, including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies to complete the specified work as identified in the Contract Documents (Specifications, Drawings, Addenda and other related documents), within the time set forth therein, and at the prices stated below. These prices are to cover all expenses incurred in performing the work of the Contract Documents, of which this proposal is a part.

Bidder agrees to commence work under this contract on a date to be specified in a written "Notice to Proceed" by the Owner and to fully complete the project within the construction period stated in the Contract Documents.

Construction period shall be as outlined in the Supplementary Instruction to Bidders and Addenda if any.

Bidder acknowledges receipt of the following Addenda;

Addenda # _____ Dated _____
Addenda # _____ Dated _____

BASE BID:

As set forth in the Contract Documents, Bidder agrees to fully complete project as identified for the lump sum of

_____ Dollars

(\$ _____) and to complete the project prior to _____.

BASE BID BREAKDOWN:

Item No.	Description	Quantity	Amount
1.	<u>Masonry Elastomeric Coating:</u> Prepare exterior concrete masonry surfaces in accordance with specifications prior to applying new elastomeric coating.	All Exterior Masonry	\$ _____
2.	<u>Exterior Sealant Replacement:</u> Remove and replace all exterior sealants, including preformed joint.	All Exterior Sealants	\$ _____
3.	<u>Spalled CMU Repair:</u> Repair spalled/cracked CMU at window head locations and install new structural columns.	As shown on the drawings	\$ _____
4.	<u>Coping Repair:</u> Remove precast concrete coping units to install new through-wall flashing.	As shown on the drawings	\$ _____
5.	<u>Curtain Wall Wet Seal:</u> Cut out existing exterior gaskets and install new fillet bead of silicone sealant.	As shown on the drawings	\$ _____
6.	<u>Damaged Exterior Glass Stop:</u> Replace damaged exterior glass stop.	As shown on the drawings	\$ _____
7.	<u>CMU Crack Repair:</u> Grind existing cracks in CMU and install backer rod and sealant	200 LF	\$ _____
8.	<u>Masonry Pointing:</u> Grind and point mortar joints within exterior masonry.	5600 SF	\$ _____
9.	<u>Rebuild Entry Gutter:</u> Install structural modifications to gutter around perimeter of entry, replace gutter membrane, and exterior finishes.	As shown on the drawings	\$ _____
10.	<u>Roof Repair:</u> Perimeter wall flashing repairs, roof replacement on roof sections N and O, and cap metal replacement.	As shown on the drawings	\$ _____
11.	Mobilization, protective canopy, Architect/Engineer access, and other general conditions, overhead, and profit		\$ _____
TOTAL (must equal total on previous page)			\$ _____

UNIT PRICES:

- If during the course of tear off of roof, deteriorated plywood sheathing is found, the undersigned shall remove and replace with new plywood sheathing to match existing for the unit price of \$ _____ per 100 s.f.

BIDDER'S ALTERNATES:

Bidder proposes the following alternate, identified

as _____

Attached is all information required to make a responsible decision on the above referenced bidder's alternate(s).

Bidder understands that the School Board reserves the right to reject any or all bids and to waive any informalities in the bidding.

The Bidder agrees that his bid shall be good and may not be withdrawn for a period of forty-five (45) calendar days after the scheduled closing time for receipt of bids.

It is understood that this bid becomes a part of the Contract Documents upon signing of the Contract, and failing to comply with any part of this bid will be taken as failure to comply with said Contract and will be just cause for rejection of the work.

Upon receipt of the Notice of Award of this Bid, Bidder will execute the formal contract within 10 days and deliver a surety bond or bonds as required by the General Conditions for the faithful performance of this Contract. The 10 percent Bid Security attached without endorsement in the sum of _____ Dollars (\$_____) is to become the property of Jefferson County Schools, District No. R-1, Lakewood, Colorado, in the event the Contract and Bonds are not executed within the time set forth above, as liquidated damages for the delay and additional work caused thereby.

Respectfully submitted,

By: _____

Title: _____

Company: _____

(Business Address)

State of Incorporation/County of Incorporation

BID BOND

KNOW ALL MEN BY THESE PRESENTS that _____
of _____, as Principal, and
_____, a Corporation duly
organized under the laws of the State of _____, and authorized to transact business in
the State of Colorado, as Surety, are held and firmly bound unto the JEFFERSON COUNTY SCHOOL
DISTRICT NO. R-1, Lakewood, Colorado, as Obligee, in the full and just sum of ten percent (10%) of
the Principal's total bid price, lawful money of the United States, for the payment of which sum, well and
truly to be made, the Principal and the Surety bind ourselves, our heirs, executors, administrators,
successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal is herewith submitting its proposal for the construction of _____, and

WHEREAS, the Obligee has required that said proposal be accompanied by a Proposal Guarantee
in an amount not less than ten percent (10%) of the Principal's total bid price in fulfillment of which
requirement this Bid Bond is made, executed, and delivered.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the aforesaid
Principal shall be awarded the Contract, the said Principal will, within the time required, enter into a
formal contract and give a good and sufficient bond to secure the performance of the terms and conditions
of the contract and the prompt payment of labor and material furnished in the prosecution thereof, then
this obligation shall be void; otherwise the Principal and Surety will pay unto the Obligee the difference
in money between the amount of the bid of the said Principal and the amount for which the Obligee
legally contracts with another party to perform the work if the latter amount be in excess of the former; in
no event shall the Surety's liability exceed the penal sum hereof. The Surety, for value received, hereby
stipulates and agrees that the obligation of said Surety and its bond shall in no way be impaired or
affected by any extension of the time within which the Obligee may accept such bid, and said Surety does
hereby waive notice of any such extension.

Signed, sealed, and delivered _____.
(Date)

_____(SEAL)

Witness to the Principal

_____(SEAL)

_____(SEAL)

This Bond must be accompanied by a current Power of Attorney

THIS BOND will be acceptable only if issued by an insurer rated not less than A- in Best's Insurance
Guide, or have a Best's Financial Rating of at least Class X.

JEFFERSON COUNTY SCHOOL DISTRICT NO. R-1

LABOR AND MATERIAL PAYMENT BOND

Bond No. _____

(This Bond is issued simultaneously with a Performance Bond in favor of the Owner conditioned on the full and timely performance of the Contract.)

KNOW ALL MEN BY THESE PRESENTS that _____, as Principal (the "Principal"), and _____, a corporation organized and existing under the laws of the State of _____, and authorized to transact business in the State of Colorado, as Surety (the "Surety"), jointly and severally bind themselves, their heirs, personal representatives, successors, and assigns, to the JEFFERSON COUNTY SCHOOL DISTRICT NO. R-1, 1829 Denver West Drive, Building 27, Golden, Colorado 80401, as Obligee (the "Owner"), for the use and benefit of it and the claimants as defined below, in the principal amount of _____ (\$ _____) as adjusted by approved change orders (not to exceed 10 percent of the principal amount of this Bond unless expressly approved by the Surety, which approval shall not be unreasonably withheld) and interest as provided by law, for the payment of all amounts which become due under the Contract described below.

The Principal and the Owner have entered into a written Construction Agreement dated _____, 20__, together with related "Contract Documents" as defined therein (all of which are collectively referred to as the "Contract" and incorporated herein by this reference), for the following Project:

The condition of this obligation is such that, if the Principal shall at all times promptly make payment of all amounts, claims, or demands lawfully due to all persons, firms, associations, or corporations supplying or furnishing to the Principal or its subcontractors labor or materials, supplies, or equipment which are used, provided, or performed in the prosecution of the work provided for in the Contract and any and all duly authorized modifications of the Contract that may hereafter be made, then this obligation shall be null and void; otherwise, the Surety shall pay the full value of all such claims or demands and shall indemnify and hold the Owner harmless from all payments which the Owner may be required to make under the Contract or applicable law in excess of the Contract price not exceeding the amount of this obligation, together with interest as provided by law, as well as attorneys' fees and costs incurred by the Owner in the resolution of any claim.

All such subcontractors, laborers, and materialmen shall have rights under the within Bond as are set forth in the statutes and laws of the State of Colorado.

Further, each and every claimant, who institutes a lawsuit for compensation or payment under the terms payment under the terms hereof, as part of any court award, shall be entitled to reasonable attorneys' fees and costs.

The undersigned Surety for value received hereby agrees that no extension of time, change in, addition to, or other modification of the terms of the Contract or work to be performed thereunder, or of the specifications, or of the Contract Documents, shall in any way affect its obligation on this Bond and the Surety hereby waives notice of any such extension of time, change, addition, or modification.

Any notice which any party desires or is required to provide another shall be in writing and shall be effective upon receipt when delivered or transmitted by personal delivery, certified (return receipt) mail, or express mail service to the addresses set forth herein.

IN WITNESS WHEREOF, said Principal and Surety have executed this Bond, this ____ day of _____, 20__.

ATTEST:

By: _____
(Principal)

(SEAL)

Address: _____

ATTEST:

By: _____
(Surety)

(SEAL)

Address: _____
Claims Telephone No.: _____
Claims Telecopier No.: _____

Best's Rating: _____

Best's Financial Rating: _____

Date: _____

This Bond will be acceptable only if issued by an insurer rated no less than A-, Best's Insurance Guide, or have a Best's Financial Rating of at least class X. The fully executed Bond form must be accompanied by a current Power of Attorney.

END OF LABOR AND MATERIAL PAYMENT BOND

JEFFERSON COUNTY SCHOOL DISTRICT NO. R-1

PERFORMANCE BOND

Bond No. _____

KNOW ALL MEN BY THESE PRESENTS that _____, as Principal (the "Principal"), and _____, a corporation organized and existing under the laws of the State of _____, and authorized to transact business in the State of Colorado, as Surety (the "Surety"), jointly and severally, bind themselves, their heirs, personal representatives, successors, and assigns to the JEFFERSON COUNTY SCHOOL DISTRICT NO. R-1, 1829 Denver West Drive, Building 27, Golden, Colorado 80401, as Obligee (the "Owner"), in the principal amount of _____ (\$_____) as adjusted by approved change orders (not to exceed 10 percent of the principal amount of this Bond unless expressly approved by the Surety, which approval shall not be unreasonably withheld) and interest as provided by law (collectively referred to herein as the "Penal Sum"), for the performance of the Construction Agreement between the Principal and the Owner, dated _____, 20__, for the following (Project): _____

_____ together with the obligations of the Contract Documents, as defined in the Construction Agreement, all of which documents are collectively referred to herein as the "Contract" and are incorporated by this reference.

The condition of this obligation is such that, if the Principal shall at all times duly, promptly, and properly perform all the terms and conditions of the Contract and any authorized modifications thereof during the original term of the Contract, any extensions thereof that may be granted by the Owner, and during the term of any guarantee or warranty required under the Contract, the Principal and Surety shall have no obligation under this Bond, otherwise it shall remain in full force and effect.

The Surety for value received agrees that no extension of time, change in, addition to, or other alteration or modification of the terms of the Contract or work to be performed thereunder, or any other forbearance on the part of either the Owner or the Principal to the other shall in any way release or affect the Surety's liability or obligation on this Bond, and the Surety hereby waives notice of any such extension of time, change, addition, modification, alteration, or forbearance.

Whenever the Owner terminates the Contract in accordance with the terms thereof, the Surety shall, within fifteen (15) calendar days after written notice of such termination, notify the Owner in writing of its election to complete the Contract in accordance with its terms, or notify the Owner that the Surety elects not to complete the Contract. If the Surety fails to give the written notice so required within such fifteen (15) calendar day period, then it will be deemed to have elected not to complete the Contract. Should the Surety elect to complete the Contract, then it shall, within fifteen (15) additional calendar days following written notice of such election, obtain a contractor, subject to approval by the Owner in writing, to complete the original Contract in accordance with its terms and conditions and thereafter proceed with the work with due diligence and make available as the work progresses sufficient funds to pay the cost of completion less the balance of the Contract price.

The Surety may not engage the Principal to complete the Contract, without the prior written consent of the Owner, which consent may be withheld in the Owner's sole discretion. If the Surety elects to complete the Contract, then it shall be entitled to receive the balance of the Contract price, less (i) any amounts paid by the Owner to the Principal; (ii) costs incurred by the Owner in correcting any defective work; (iii) any additional legal, design professional, and other costs incurred by the Owner resulting from the Principal's default; and (iv) liquidated damages caused by delayed performance or nonperformance of the Principal. Any progress payments, less retainage, due but not paid at the date of termination shall be paid to the Surety so long as the Surety has agreed to indemnify the Owner for the amount thereof and no other claims have been made to such funds by subcontractors or suppliers in accordance with the Contract or applicable law.

In the event the Surety elects not to complete the Contract, the Owner may then have the work completed by such means and in such manner, by contract with or without public bidding, or otherwise, as it may deem advisable. The Surety in such event shall at all times make available, as work progresses under the Contract between the Owner and its new contractor, sufficient funds, not to exceed the Penal Sum, to pay the cost of the completion of the Contract pursuant to its terms, together with the other amounts set forth in (i) through (iv) above, but in no event shall the Surety be responsible for the payment of any sums to the Owner until the Owner has paid in full its total obligation under the terms of the original Contract, plus change orders, less deductions and claims chargeable by law or by the Contract, if any, and less the retainage which will be disbursed as provided by the Contract Documents and applicable law.

The procedures set forth herein shall apply should there be a default and termination or a succession of defaults and terminations in fulfilling the terms and conditions of the work under the original Contract.

In the event there are negotiations between the Principal and/or the Surety and the Owner subsequent to the date of termination, each party shall appoint an authorized representative with authority to represent it during the negotiations. All written communications and official discussions between the parties shall be conducted by these authorized representatives. Any notice which any party desires or is required to provide another shall be in writing and shall be effective upon receipt when delivered or transmitted by personal delivery, certified (return receipt) mail, or express mail service to the addresses set forth herein.

Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work is located and shall be instituted before the expiration of three (3) years from the date on which final payment under the contract is made; provided, however, that this period may be extended by one (1) additional year by the Owner's giving written notice to the Surety within the three (3) year period of a potential claim. Any judgment recovered hereunder by the Owner shall include interest at the legal rate, together with reasonable attorneys' fees and costs.

No right action shall accrue under this Bond to or for the use of any person or entity other than the Owner or its successors and assigns.

IN WITNESS WHEREOF, the Principal and Surety have signed this Performance Bond as of the ____ day of _____, 20__.

ATTEST:

By: _____

(Principal)

(SEAL)

Address: _____

ATTEST:

By: _____

(Surety)

(SEAL)

Address: _____

Claims Telephone No.:

Claims Telecopier No.:

Best's Rating: _____

Best's Financial Rating: _____

Date: _____

This Bond will be acceptable only if issued by an insurer rated no less than A-, Best's Insurance Guide, or have a Best's Financial Rating of at least class X. The fully executed bond form must be accompanied by a current Power of Attorney.

END OF PERFORMANCE BOND

**JEFFERSON COUNTY SCHOOL DISTRICT NO. R-1
LAKEWOOD, COLORADO**

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GC 1. CONTRACT DOCUMENTS

1.1 The work shall be accomplished in accordance with the Contract Documents which shall be included in this Contract and shall consist of the Invitation to Bid, Instructions to Bidders, Bid Security, Proposal, Notice of Contract Award, Insurance Policies and Certificates, Notice to Proceed, Performance Bond, Labor and Material Payment Bond, Construction Agreement, the General Conditions of the Contract, Supplementary General Conditions, drawings and specifications, tests and engineering data, approved change orders, Contractor's Requests for Payment, Architect's Certificates, and all addenda issued by the Owner or Architect prior to the awarding of the Contract.

GC 2. DEFINITIONS

Words, phrases, and other expressions used in these Contract Documents shall have meanings as follows:

2.1 "Contract" or "Contract Documents" shall include the items enumerated above under CONTRACT DOCUMENTS.

2.2 "Owner" shall mean the Jefferson County School District No.R-1, named and designated as such in the Contract Documents acting through its duly authorized representative.

2.3 "Contractor" shall mean the corporation, company, partnership, firm, entity, or individual named and designated as such in the Contract Documents which has entered directly into this Contract with the Owner for the performance of the work covered thereby, and any persons or entities acting on its behalf.

2.4 "Subcontractor" shall mean and refer to a corporation, partnership, entity, or individual having a direct contract with the Contractor or another subcontractor for performing work and/or furnishing labor or material which is incorporated into the work at the request of the Contractor or other subcontractor.

2.5 "Architect" shall mean the architects or engineers designated, appointed, or otherwise employed or delegated by the Owner, or its duly authorized representatives, acting within the scope of the particular duties entrusted to them in each case.

2.6 "Notice to Contractor" shall be deemed to have been duly served if made in writing and delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if sent by registered or certified mail to the last known business address.

2.7 "The work" shall mean the equipment, supplies, materials, labor, and services to be furnished under the Contract and the carrying out of all obligations imposed or required by the Contract Documents.

2.8 "The project" is the total construction designed by the Architect of which the work performed under the Contract Documents may be the whole or a part.

2.9 All time limits stated in the Contract Documents are of the essence of the Contract.

2.10 The Contract shall be governed by the laws of the State of Colorado.

2.11 The date of completion of a project is the date when construction is certified by the Architect to be finally completed in accordance with Contract Documents, as modified by any change orders agreed to by the parties and when the Owner has fully accepted the project

for the use for which it was intended. Such date will be set forth on a Letter of Acceptance issued by the Owner.

2.12 "Drawings" or "plans" shall mean all (a) drawings furnished by the Owner and/or Architect as a basis for the award of Contract; (b) supplementary drawings furnished by the Owner and/or Architect to clarify and to define in greater detail the intent of the Contract drawings and specifications; (c) drawings furnished by the Owner to the Contractor during the progress of the work; and (d) engineering data and drawings submitted by the Contractor during the progress of the work, provided such drawings are acceptable to the Architect.

2.13 "Specifications" are the written technical information concerning materials, components, systems, and equipment as indicated on the drawings or plans and which state the quality, performance, characteristics, and installations to be achieved by application of construction methods.

GC 3. ORAL STATEMENTS

3.1 It is understood and agreed that the written terms and provisions of the Contract Documents shall supersede all oral statements of representatives of the Owner, and oral statements shall not be effective or be construed as being a part of this Contract.

GC 4. REFERENCE STANDARDS

4.1 Reference to the standards of any technical society, organization, or association, or to codes of local or state authorities, shall mean the latest standard, code, specification, or tentative standard adopted and published at the date of the Contract Documents unless specifically stated otherwise.

GC 5. ITEMS COVERED BY CONTRACT PRICE

5.1 Unless otherwise specifically provided herein, the Contractor shall accept the compensation stated in the Construction Agreement as full payment for furnishing all the materials, transportation, apparatus, temporary structures, equipment, services, fuel, energy, light, water, labor, and tools, all risks and losses of every kind or description connected with the prosecution of the work, and all other things necessary for the complete and proper execution of the work contemplated by or reasonably implied from the Contract Documents, within the time limits indicated therein.

GC 6. EXECUTION, CORRELATION, INTENT, AND INTERPRETATION OF CONTRACT DOCUMENTS

6.1 Execution. The Contract Documents shall be signed in multiple copies as directed by the Owner. Within ten (10) days of Notice of Contract Award, the Contractor shall submit to the Owner a minimum of three (3) fully executed original sets of the Construction Agreement; Performance Bond and Labor and Material Payment Bond with original Power of Attorney; and certificates of required insurance coverage. The date of the Contract for purposes of these documents shall be the date of the Notice of Contract Award letter. The

Owner will execute the Construction Agreement, assemble all copies, and distribute the Contract Documents. The Contractor shall not commence the work until it receives the Notice to Proceed.

6.2 Correlation. By executing the Contract, the Contractor represents that it has visited the site, familiarized itself with the local conditions under which the work is to be performed, and correlated its observations with the requirements of the Contract Documents.

6.3 Intent. The intention of the Contract Documents is to include all labor and materials, tools, equipment, construction equipment, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the work. Materials or work described in words which as applied have a well-known technical or trade meaning shall be held to refer to such recognized standards.

6.3.1 The organization of the specifications into divisions, sections, and articles, as the case may be, and the arrangement of drawings shall not control the Contractor in dividing the work among subcontractors or in establishing the extent of work to be performed by any trade.

6.3.2 It is intended that even though work is not covered under any heading, division, section, article, branch, class, or trade of the specifications, it shall nevertheless be supplied if it is required elsewhere in the Contract Documents or is reasonably inferable therefrom as being necessary to produce the intended results.

6.3.3 The specifications and drawings are intended to supplement but not necessarily duplicate each other. Any work exhibited in the one and not in the other shall be executed as if it had been set forth in both, so that the work will be constructed according to the complete design as determined by the Architect.

6.4 Interpretation. Should anything necessary for a clear understanding of the work be omitted from the specifications and drawings, or should the requirements appear to be in conflict, the Contractor shall secure written interpretations or instructions from the Architect before proceeding with the work affected thereby. It is understood and agreed that the work shall be performed according to the true intent of the Contract Documents.

6.4.1 Where a conflict occurs between or within standards, specifications, and drawings, the more stringent or higher quality requirements shall apply. The precedence of the Construction Documents is in the following sequence:

6.4.2 Addenda to the drawings and specifications take precedence over the original Construction Documents.

6.4.3 In the drawings, the precedence shall be drawings of larger scale over those of smaller scale and noted materials over graphic indications.

6.4.4 Any work mentioned in the specifications and not shown on the drawings or shown on the drawings and not mentioned in the specifications shall be of like effect as if shown or mentioned in both. The Contractor shall examine the specifications and drawings and check all dimensions and notify the Architect and the Owner of any discrepancies between the specifications and drawings and any deficiencies, omissions, or errors before any work is commenced.

6.4.5 In the event of any conflict between the Contract Agreement including the General Conditions and the Specifications, the Contract Agreement including General Conditions shall control. In the event of any conflict between the General Conditions and the Contract Agreement, the Agreement shall control.

GC 7. DRAWINGS AND SPECIFICATIONS

7.1 Copies Furnished. Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, all copies of drawings and specifications reasonably necessary for the execution of the work.

7.2 Ownership of Drawings. All drawings, specifications, and copies thereof furnished by the Architect are the property of the Architect and the Owner, whether the work for which they are made be executed or not, and are not to be used on other work except by written agreement with the Architect and the Owner.

7.3 Drawings and Specifications Available on the Site. The Contractor shall maintain at the site for the Owner and the Architect one copy of all drawings, specifications, addenda, approved shop drawings, change orders, and other modifications, in good order and marked to record all changes made during construction. The Contractor shall also keep on the site all applicable standards, codes, manufacturer's or other specifications referenced in the Contract Documents. The drawings, marked to record all changes made during construction, shall be delivered to the Architect for the Owner upon completion of the work.

7.4 Figured Dimensions to Govern. Dimensions and elevations shown on the drawings shall be accurately followed. No work shown on the drawings, the dimensions of which are not indicated, shall be executed until necessary dimensions have been obtained from the Architect.

7.5 Contractor to Check Drawings and Schedules. The Contractor shall check all dimensions, elevations, and quantities shown on the drawings furnished to them by the Architect, and shall notify the Architect of any discrepancy between the drawings and the conditions on the ground, or any error or omission in drawings, or in the layout as given by stakes, points, or instructions, which they may discover. Before ordering any material or doing any work, the Contractor shall verify all measurements at the building and shall be responsible for the correctness of same. No extra charge or compensation will be allowed on account of difference between actual dimensions and the measurements indicated on the drawings. Any difference which may be found shall be submitted to the Architect for consideration before proceeding with the work. The Contractor will not be allowed to take advantage of any error or omission in the drawings or Contract Documents. Full instructions will be furnished by the Architect should such error or omission be discovered, and the Contractor shall carry out such instructions as if originally specified.

7.6 Detail Drawings and Instructions. The Architect shall furnish with reasonable promptness, additional instructions by means of drawings or otherwise, necessary for the proper execution of the work. All such drawings and instructions shall be consistent with the Contract Documents, true developments thereof, and reasonably inferable therefrom. The work shall be executed in conformity therewith, and the Contractor shall do no work without proper drawings and instructions.

7.7 Project Record Drawings. The Contractor shall maintain a Contract set of drawings at the site with all changes or deviations from the original drawings neatly marked thereon in a contrasting color. The Contractor shall also maintain a Contract set of specifications at the site, noting therein by appropriate section, the names, models, and other distinguishing characteristics of the products actually incorporated into the work. This set of drawings and specifications shall be updated daily as the job progresses and shall be made available to the Owner and Architect for inspection at all times. Upon completion of the work and before final payment, this Project Record set of drawings and specifications shall be delivered to the

Architect. The accuracy of the Project Record Drawings shall be verified monthly as part of the monthly payment application process.

GC 8. SHOP DRAWINGS AND SAMPLES

8.1 Shop Drawings. Shop drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures, manufacturer's literature, and other data which are prepared by the Contractor or any subcontractor, manufacturer, supplier, or distributor, and which illustrate some portion of the work. The District encourages the submission of shop drawing, product data and other submittals in electronic format.

8.2 Samples. Samples are physical examples furnished by the Contractor to illustrate materials, finishes, equipment, or workmanship, and to establish standards by which the work will be judged.

8.3 Subcontractor. The Contractor shall require each subcontractor to prepare, stamp with his approval, and submit to the Contractor with reasonable promptness and in orderly sequence so as to cause no delay in the work or in the work of any other subcontractor, all shop drawings and samples on all shop fabricated items and on all matters, required by the Contract Documents or subsequently by the Architect as covered by modifications. Shop drawings and samples will properly identify specified items. At the time of submission, the subcontractor shall inform the Contractor and the Architect in writing of any deviation in the shop drawings or samples from the requirements of the Contract Documents. Substitutions will be allowed only in accordance with the provisions of GC 37 hereinafter.

8.3.1 The Contractor shall also require each subcontractor to prepare and transmit sufficient sets of prints of all shop drawings which are specially drawn for this project, including detailed fabrication and erection drawings, setting drawings, diagrammatic drawings, material schedules, and samples to the Contractor to meet the project construction schedule and the subcontractors' Contract schedule, or shall present, in writing, valid reasons for any delay.

8.3.2 All shop drawings for all equipment in a given system shall be submitted at one time, each complete set in a separate brochure. Complete maintenance/warranty data are to be submitted to the Contractor and Architect for review and for submission to the Owner at the completion of the work and prior to final project acceptance.

8.3.3 Each sheet of shop drawings shall identify the project, subcontractor, and fabricator or manufacturer and the date of the drawings. All shop drawings shall be numbered in sequence and each sheet shall indicate the total number of sheets in the set.

8.3.4 The shop drawings shall indicate types, gauges, and finish of all materials. Sufficient data in each set of shop drawings shall be included to permit a detailed study of the system submitted and its conformance to the Contract Documents and design intent.

8.3.5 The Contractor will review, approve, stamp, and then submit the prints and samples to the Architect for approval with copies to the Owner. After review, the Architect will then return the prints to the Contractor with the Architect's appropriate comments. Those returned for correction shall be corrected and resubmitted. Upon receiving the approved prints from the Architect, the Contractor will make requested sets of prints for distribution to appropriate subcontractors, fabricators, manufacturers, and suppliers who require them for coordination of their work.

8.4 Verification. By approving and submitting shop drawings and samples, the Contractor thereby represents that they have determined and verified all field measurements, field construction criteria, dimensions, elevations, quantities, materials, catalog numbers, and similar data, as shown on the drawings and specifications furnished by the Architect, or will do so, and that they have checked and coordinated each shop drawing and sample with the requirements of the work and of the Contract Documents.

8.5 Architect Review. The Architect will review and approve shop drawings and samples with reasonable promptness so as to cause no delay, but only for conformance with the design concept of the project and with the information given in the Contract Documents. The Architect's approval of a separate item shall not indicate approval of an assembly in which the item functions. On the completion of the work, the Architect shall be furnished two corrected copies of all shop or setting drawings showing the as-built condition of the work. The Architect, after review, shall submit one of these copies to the Owner.

8.6 Corrections. The Contractor shall make any corrections required by the Architect and shall resubmit the required number of corrected copies of shop drawings or new samples until approved. The Contractor shall direct specific attention in writing or on resubmitted shop drawings to revisions other than the corrections requested by the Architect on previous submissions.

8.7 Contractor's Responsibility. The Architect's approval of shop drawings or samples shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents unless the Contractor has informed the Architect in writing of such deviation at the time of submittal and the Architect has given written approval to the specific deviation, nor shall the Architect's approval relieve the Contractor from responsibility for errors or omissions in the shop drawings or samples.

8.8 Architect Approval Required. No portion of the work requiring the submission of a shop drawing or sample shall be commenced until such submittal has been approved by the Architect. All such portions of the work shall be in accordance with approved shop drawings and samples.

8.8.1 All material finishes and samples will be approved at one time. The Contractor shall submit all items requiring approval of finishes, color, material, etc., with sufficient lead time to allow simultaneous consideration and preparation of complete finish Color Schedule. No approvals of single items will be considered.

GC 9. MATERIALS, LABOR, FACILITIES, AND STORAGE

9.1 Contractor's Responsibility. Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, tools, equipment, machinery, transportation, and other facilities necessary for the proper execution and completion of the work. The Contractor shall provide and pay for all the temporary facilities required to supply all the power, light, water, and heat needed by him and the subcontractors for their work and shall install and maintain all such facilities in such manner as to protect the public and workmen and conform with any applicable laws and regulations. If temporary heat and/or protection is required for the expeditious prosecution of the work and before the permanent heating apparatus is available for use, the temporary heating apparatus shall be installed and operated in such a manner that the finish work and/or construction will not be damaged thereby.

9.1.1 Unless otherwise specified, the Contractor shall pay for all the power, light, and water used by him and the subcontractors, without regard to whether such items are metered by temporary or permanent meters. The cutoff date on permanent meters shall be either the agreed date of full occupancy by the Owner or the date of final acceptance of the project, whichever shall be the earlier date. Upon completion of the work, the Contractor shall remove all such temporary facilities from the site.

9.2 Materials. Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of the highest quality. The Contractor shall furnish satisfactory evidence as to the kind and quality of materials. Samples shall be furnished, when specified, and the work shall be in accordance with those samples which have been approved.

9.3 Facilities and Storage. The Contractor shall provide and maintain, in a neat and sanitary condition, adequate temporary toilet facilities for the use of any and all employees engaged on the work, in strict compliance with the requirements of all applicable codes, regulations, laws, and ordinances. In no event may toilet facilities of any existing building at the site of the work be used by employees of the Contractor or subcontractors. Upon completion of the work, all such temporary facilities shall be removed from the site.

9.3.1 The Contractor shall provide suitable temporary facilities and shall maintain on premises watertight storage shed or sheds, tool houses for storage of building materials and tools which may be damaged by weather. The Contractor shall allow space for the erection of sheds and provide similar facilities for storage by subcontractors of their materials and tools. Storage of materials shall be confined to the site. These facilities shall further provide for protection against theft and damage of building materials and tools. Upon completion of the work, the Contractor shall remove all such temporary facilities from the site.

9.3.2 The Contractor shall provide adequate, weatherproofed, heated, and well-lighted office space at the site of the work, for the use of the Architect and the Owner and their representatives.

9.3.3 All of the foregoing facilities shall be of a quality and placed in locations acceptable to the Architect and the Owner.

GC 10. EMPLOYEES

10.1 Qualifications. The Contractor and its subcontractors shall at all times enforce strict discipline and good order among his employees, and shall not employ on the work any person considered by the Architect or the Owner to be unfit or not skilled in the work assigned to him. The Contractor shall also keep its employees and those of its subcontractor from socializing upon the site of the work after normal work hours and from fraternizing at any time with staff, students, parents, and other persons who are at the school or the site of the work.

10.2 Drug-Free Zone. The Jefferson County School District No. R-1 is a drug-free zone. In furtherance of this standard, the Contractor shall establish and maintain a safe and efficient work environment for all employees, free from the effects of alcohol, controlled substances, and illicit drugs. The manufacture, distribution, dispensing, possession, or use of alcohol, controlled substances, and illicit drugs is prohibited on or adjacent to the project site and all of the Owner's property at all times. Illicit drug use is the use of illegal drugs and the abuse

of alcohol and other drugs, including anabolic steroids. Controlled substances are drugs specifically identified and regulated under state or federal law and include, but are not limited to, opiates, narcotics, cocaine, amphetamines and other stimulants, depressants, hallucinogenic substances, and marijuana. The Contractor will strictly enforce this prohibition among his own employees and his subcontractors and their employees at all times. The Contractor and subcontractors shall require all of their employees to undergo drug and alcohol testing if an employee is involved in an accident on the site which may have been caused by human error which could be drug or alcohol related or when a supervisor has reasonable suspicion or notice that the employee shows signs of possible intoxication, use, or is under the influence of drugs, alcohol, or controlled substances. Employees who violate these prohibitions will be subject to disciplinary action by their employers up to and including termination and may be denied access to the site of the work. Violation of this provision shall also constitute sufficient grounds for termination of the Contract or any subcontract without damages or penalty to the Owner.

10.3 Equal Employment. During the performance of this Contract, the Contractor agrees not to discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin, disability, or age. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, sex, national origin, disability, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor; state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, national origin, disability, or age.

10.4 Criminal Record Verification. Successful bidder will be required to complete a criminal records check on all employees who work on the project. Employees who have been convicted of a _____ felony, including crimes that require registration on the National Sexual Offender Registry will not be allowed to work on the project. The contractor must complete and submit the district's Criminal Records Check Certification form prior to starting work. Each individual contractor will be responsible to adhere to any Federal, State or Local privacy and confidentiality requirements.

10.5 Responsibility for Employees. The Contractor shall be responsible to the Owner for the acts and omissions of all his employees. The Contractor shall further be responsible for the acts and omissions of all subcontractors, their agents and employees, and all other persons acting on behalf of the Contractor or subcontractors as set forth herein.

GC 11. ROYALTIES AND PATENTS

11.1 The Contractor shall pay all royalties and license fees. They shall defend all suits or claims for infringement of any patent rights and shall hold the Owner harmless from loss on account thereof. If the Contractor has information that the process or article specified is an infringement of a patent, they shall be responsible for such loss unless they promptly gives such information to the Architect.

GC 12. SURVEYS, PERMITS, LAWS, REGULATIONS, AND TAXES

12.1 Surveys. As provided by the Owner, the Contractor shall obtain from the Architect a copy of all surveys describing property lines, elevation benchmarks, physical characteristics, and utility locations.

12.2 Permits and Licenses. The State building permit will be secured and paid for by the Owner. Any other permits, governmental fees, and licenses necessary for the proper execution and completion of the work shall be secured and paid for by the Contractor. Easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the Owner, unless otherwise specified. The Owner is exempt from paying any fee for any building permit issued by any building departments located in Jefferson County. However, the Contractor shall secure such permit from proper governmental agency if requested by Owner, in which case the cost of any such fee shall be verified and paid by the Owner.

12.2.1 The Owner will negotiate and provide for all electrical, gas, water, and sewer mains for Contractor's connections. The Contractor is to arrange with the utility company for actual connection, make necessary connections, and pay for all inspection fees and permits in connection therewith as required by any governmental agency. In addition, the Contractor will furnish any material or items as required to complete all connections.

12.2.2 The Contractor shall coordinate and call for all inspections as required by the State of Colorado, Division of Oil and Public Safety, State Plumbing, State Electrical, local Fire Authority or authority having jurisdiction (AHJ) over the work.

12.2.3 All other required permits shall be taken out and paid for by the Contractor or respective subcontractor as required by the governing public agency. The Contractor shall call and pay for all inspections required by the State, Fire Department or public agencies as required.

12.3 Laws and Regulations. 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 drawings and specifications are at variance therewith, they shall promptly notify the Architect in writing and any necessary changes shall be adjusted as provided in the Contract for changes in the work. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules, and regulations, and without such notice to the Architect, they shall bear all costs arising therefrom and to correct same.

12.4 Taxes. The Owner is exempt from paying any State sales or State use taxes on any materials, supplies, or other equipment used or installed in the work. To effectuate this exemption, the Contractor shall obtain a Certificate of Exemption from the Colorado Department of Revenue and file copies with the Owner before making any purchases or commencing work. No amounts paid to the Contractor pursuant to this agreement shall include reimbursement for such taxes.

GC 13. BENCHMARKS, MONUMENTS, STAKES, AND MEASUREMENTS

13.1 Benchmarks. The Contractor shall properly stake out the work and provide and rigidly set benchmarks and batter boards as necessary for the proper performance of the work. The Contractor shall remain responsible for their maintenance and their accuracy. A permanent benchmark, approved as to location and type by the Architect, from which all grades are to be taken, shall be established near the site of the work by the Contractor. From this benchmark the Contractor shall ascertain all grades and levels to the building as needed. The Contract Documents shall include all necessary information to establish the benchmark.

13.2 Preservation of Monuments and Stakes. The Contractor shall carefully preserve all monuments, benchmarks, property markers, reference points, and stakes. In case of his destruction thereof, the Contractor will be charged with the expense of replacement and shall be responsible for any mistake or loss of time that may be caused. Permanent monuments or benchmarks which must be removed or disturbed shall be protected until properly referenced for relocation. The Contractor shall furnish materials and assistance for the proper replacement of such monuments or benchmarks.

13.3 Measurements. Before ordering any material or performing any work, the Contractor shall verify all measurements at the project and shall be responsible for the accuracy of same. No extra charge or compensation shall be allowed because of any difference between actual dimensions and the measurements indicated in the drawings or specifications.

13.3.1 Any discrepancies shall be submitted to the Architect and Owner for consideration before proceeding with the work.

GC 14. PROTECTION OF WORK, PROPERTY AND STORMWATER MANAGEMENT

14.1 The Contractor shall take all necessary precautions for the safety of, and shall provide all necessary protection to prevent damage, injury, or loss to all employees on the project and all other persons who may be affected thereby; all the work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody, or control of the Contractor or any of their subcontractors; 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.

14.2 The Contractor shall comply with all applicable provisions of the Occupational Safety and Health Administration (OSHA) and all laws, ordinances, rules, regulations, and orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury, or loss. The contractor shall erect and maintain all necessary safeguards for the safety and protection of workmen, owners, and users of adjacent facilities and the public and shall post danger signs and other warnings against hazards created by such features of construction as protruding nails, hoists, well holes, elevator shafts, hatchways, scaffolding, window openings, stairways, excavations, and falling materials; and shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated in writing by the Contractor to the Owner and the Architect.

14.3 The Contractor shall be liable for and shall promptly repair, remedy, indemnify, and pay for all damage or loss to any person or property caused in whole or in part by the Contractor, any subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, except damage or loss proximately caused by faulty drawings or specifications or to the acts or omissions of the Owner or Architect and not attributable to any fault or negligence of the Contractor.

14.4 In an emergency affecting the safety of life or of the work or of adjoining property, the Contractor, without special instruction or authorization from the Architect or Owner, is hereby permitted to act, at their own discretion, to prevent such threatened loss or injury; and they shall so act, without appeal, if so authorized or instructed. Any compensation, claimed by the Contractor on account of emergency work, shall be determined by agreement. Notification of and report of such emergencies shall be made immediately to the Owner and Architect.

14.5 The contractor is responsible for securing and paying for the State Stormwater Management Permit and/or local Stormwater Management Permit as may be required. The contractor is responsible to ensure that all the requirements of either the State or local Stormwater Management Permit are strictly followed during construction. The contractor shall review and follow the Owners Illicit Discharge reporting procedures in the event of an occurrence.

14.6 The Owner may engage a civil engineer to prepare an erosion control plan as part of the over all contract documents. The contractor can use or modify the contract document plan as necessary in their preparation of the Stormwater Management Permit application. However, this does not relieve the contractor from preparing their own site specific plan for application submission if no plan is provided in the contract documents.

14.7 The Owner or designated owners representative may inspect the Stormwater Management plan, project site and BMP's and communicate noted deficiencies for corrective measures at any time during the construction project. The contractor shall be fined up to \$250 dollar per day in addition to any Federal, State or local fines until deficiencies are corrected. The contractor shall coordinate all inspections required by the State or authority having jurisdiction (AHJ).

14.8 The Owners final acceptance of the project and contractor de-mobilization, does not relieve the contractor of their responsibilities and duties as required in the permit (i.e. maintain BMP's, regular and post event inspections as defined in the permit, etc.) while it is still open. Final acceptance of ground areas including permanent stormwater structures shall only occur after the required vegetation and stabilization has been established. The contractor is required to conduct monthly inspections of the site and BMP's during this warranty period and make corrective changes to the BMP's or add BMP's as needed.

14.9 The contractor will notify the Owner in writing when they believe all vegetation and stabilization has reached the contract requirements and they want to close the Stormwater Management Permit. The Owner must be allowed the opportunity to review the site and approve the contractors request to close the permit. The contractor can not apply to close the Stormwater Management permit without the Owners written approval. It is the contractor responsibility to remove and dispose of all BMP's after the Stormwater Management Permit has been closed.

GC 15. ACCESS TO WORK

15.1 Access. The Architect, the Owner, and their representatives shall at all times have access to the work wherever it is in preparation or progress, and the Contractor shall provide proper facilities for such access so that the Architect may perform his functions under the Contract Documents.

15.2 Inspection. If the specifications, the Architect's instructions, laws, ordinances, or any public authority require any work to be specially tested or approved, the Contractor shall give the Architect timely notice of its readiness for checking by the Architect or inspection by another authority, and if the inspection is by another authority, of the date fixed for such inspection. All required certificates of inspection shall be secured by the Contractor. If any work should be covered up without approval or consent of the Architect, it must, if required by the Architect, be uncovered for examination at the Contractor's expense.

15.2.1 Re-examination of questioned work may be ordered by the Owner, and if so ordered, the work must be uncovered by the Contractor. If work is found to be in accordance with the Contract Documents, the Owner shall pay the cost of re-examination and replacement. If such work is found not to be in accordance with the Contract Documents, the Contractor shall pay such cost.

15.3 Testing. Materials incorporated into the project will be subject to routine tests as required to ensure their compliance with the specifications. Such tests may include, but shall not necessarily be restricted to, the following: Concrete: primary mix design, slump tests, cylinder compressions tests, and air entrainment tests; Steel: tensile tests; Welds: field inspection and x-ray examination; Soils: sub-soil investigation, physical analysis, and compaction tests; Asphalt pavement: physical analysis and compaction tests; and Roofing-Samples cut from in-place built-up roof.

15.3.1 Any other basic materials for which standard laboratory test procedures have been established may also be included if doubt as to their quality should arise.

15.3.2 Any testing of the above nature will be done at the discretion of the Owner who will bear all costs, unless otherwise provided in the Contract Documents. The Contractor shall be held responsible for providing samples of sufficient size for test purposes and for cooperating with the Owner or his representative in obtaining and preparing samples for tests. All tests will be in accordance with standard test procedures and will be performed by persons or firms selected by the Owner.

GC 16. CONTRACTOR'S SUPERINTENDENCE AND SUPERVISION

16.1 During the progress of the work, the Contractor shall ensure that a competent superintendent and any necessary assistants, all satisfactory to the Architect and the Owner, are on the project site at all times while work is in progress. The superintendent shall not be changed by the Contractor except with the consent of the Owner and the Architect unless the superintendent proves to be unsatisfactory to the Contractor and ceases to be in its employ. In the event the superintendent ceases to be in the Contractor's employ and a new superintendent is selected for the Owner's project, that superintendent will meet with the approval of the Owner. The superintendent shall represent the Contractor in its absence, and all directions given to superintendent shall be as binding as if given to the Contractor. The Architect and Owner shall not be responsible for the acts or omissions of the superintendent or their assistants.

16.2 The superintendent shall remain on-site full-time through the actual date of final completion, the completion of all punch list items, until the date of the Owner's Letter of Acceptance.

16.3 The Contractor shall provide full-time, qualified, and efficient supervision of the work, using competent skill and attention. The superintendent shall be knowledgeable and completed training in Stormwater Management & Erosion Control and OSHA construction safety. The superintendent shall be knowledgeable of all building codes that govern the construction of the project. The superintendent shall direct, schedule, and coordinate the work. The superintendent is responsible for determining and supervising all temporary and permanent erection and construction sequences, techniques, means and methods. The superintendent shall coordinate the work to ensure that all parts fit together properly and in accordance with the Contract Documents. The superintendent shall carefully study and compare all Contract Documents and other instructions and shall at once report to the Architect and the Owner any error, inconsistency, or omission which they may discover.

16.4 The superintendent shall see that the work is carried out in accordance with the Contract Documents and in a thorough and first-class manner in every respect.

16.5 The Contractor shall provide engineering, surveying, and coordination to accurately establish all lines, levels, and marks necessary to facilitate the operations of all concerned in the Contractor's work. Contractor shall lay out the work in a manner satisfactory to the Architect, making permanent records of all lines and levels required for excavation, grading, and foundations, and for all other parts of the work. Contractor shall determine the commencement and certify the proper completion of the various stages of construction.

GC 17. CHANGES IN THE WORK

17.1 Change Orders. The Owner may, at any time, by a written change order directed through the Architect, without notice to the sureties and without invalidating the Contract, make changes in the drawings and/or specifications of this Contract within the general scope thereof; order extra work; or make changes by altering, adding to, or deducting from the work. If such changes cause an increase or decrease in the amount due under this Contract, or in the time required for its performance, an equitable adjustment shall be made on the change order, and the Contract shall be modified in writing accordingly. Any claim of the Contractor for adjustment under this clause must be asserted in writing within ten (10) days from the date of receipt by the Contractor of the notification of change. No change order or other form of order or directive by the Owner or Architect requiring additional compensable work to be performed, which causes the aggregate amount payable under the Contract Documents to exceed the amount appropriated for the original Construction Agreement shall be issued unless the Contractor is given written assurance by the Owner that lawful appropriations to cover the costs of the additional work have been made.

17.2 Minor Changes. In giving instructions, the Architects shall have authority to make minor changes in the work, which do not involve extra cost, and which are not inconsistent with the purposes of the building. Otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless in pursuance of a written order from the Owner signed or countersigned by the Architect, or a written order from the Architect stating that the Owner has authorized the extra work or change. No claim for an addition to

the Contract sum shall be valid unless ordered or authorized in the manner set forth in this paragraph.

17.3 Price Differential. The cost or credit resulting from a change in the work shall be determined in one or more of the following ways:

17.3.1 By estimate, with a detailed cost breakdown as set forth in subparagraph 17.3.3. below, and acceptance in a lump sum, with a maximum combined mark-up to the Owner, for the Contractor and all affected subcontractors, not to exceed a total of fifteen percent (15%). Overhead, profit and additional fee on work performed by others shall be limited to the percentages set forth below, and shall include insurance premiums not itemized above, cost of office supervision and assistants, incidental job burdens, and general office expense. The base for applying percentages shall not include the social security tax. Such percentages are as follows:

17.3.1.1 To subcontractors and/or to the contractor for work performed with its own forces, an overhead of 5.0% and a profit of 5.0%.

17.3.1.2 On proposals involving both increases and decreases in the amount of the contract, the overhead, profit and fee will be allowed on any net increase only.

17.3.2 By unit prices named in the Contract or subsequently agreed upon.

17.3.3 If the parties are unable to agree on one of the above methods, then the amount shall be determined by force account under the following formula:

17.3.3.1 The actual cost of all direct labor performed (including foremen employed continuously on the work, but not the salary, or any part thereof, of the Contractor's superintendent) and the actual materials furnished for and used in such work, less all available cash, trade, or other discounts;

17.3.3.2 Rental for the use of such items of equipment as have an individual value in excess of One Thousand Dollars (\$1,000); provided that the amount of such rental charge and the length of time and probable cost of the use of such equipment shall have been authorized in writing by the Owner;

17.3.3.3 All proportionate sums paid for royalties, permits, and inspection fees;

17.3.3.4 All proportionate premiums for Public Liability Insurance, Worker's Compensation, and other proper and necessary insurance, as well as all applicable payroll taxes;

17.3.3.5 Either a predetermined lump sum, fixed fee, or a fee of fifteen percent (15%), which fee shall be applied to the total of paragraphs 17.3.3.1, 17.3.3.2, and 17.3.3.3 . only, and shall constitute full compensation to the Contractor for all costs and expenses, including all overhead and profit, which are not otherwise enumerated above. Subcontractors, if employed by the Contractor on this part of the work, will receive such portion of the Contractor's fee as may be agreed and paid to them by the Contractor.

17.3.3.6 The Contractor shall keep and present, in such manner as the Owner may direct, an accurate accounting of all of the foregoing costs, together with all supporting vouchers and other documentation, all subject to audit by the Owner.

GC 18. CLAIMS FOR EXTRA COST OR ADDITIONAL TIME AND WAIVER OF CONSEQUENTIAL DAMAGES

18.1 Claims for Extra Cost or Time. If the Contractor claims that any instructions by drawings or otherwise, after the date of the Contract, involve extra costs under this Contract which were not included in the original bid, or requires an extension in the Contract time, he shall give the Owner and the Architect written notice thereof no later than seven (7) calendar days after the receipt of such instructions, and in any event before proceeding to execute the work, except in an emergency endangering life or property, and the procedure shall then be as provided for changes in the work. No such claim shall be valid unless so made. Any change in the Contract amount or Contract time must be authorized by change order.

18.2 Delays and Extensions of Time. If the Contractor is delayed at any time in the progress of the work by any act or neglect of the Owner or the Architect, or by any employee of either, or by any separate contractor employed by the Owner, or by changes ordered in the work, or by unavoidable casualties, or by any cause which the Owner determines may justify the delay, then the completion date shall be extended by change order for such reasonable time as the Owner may determine.

18.2.1 If unusually severe weather conditions are a basis for a claim for additional time, the weather experienced at the project site during the time of completion for the Project must be found to be a greater magnitude than the anticipated adverse weather for the Denver metro area during any given month. Such claim shall be documented by the contractor by data substantiating that weather conditions were unusually severe in comparison to the thirty (30) year average established by the climatologically data, U.S. Department of Commerce, for the Denver area and could not have been reasonably anticipated. The unusually severe weather must actually cause a delay to the completion of the Project by preventing work on Critical Path scheduled activities for fifty-one (51%) or more of the Contractor's scheduled workday. The delay must be beyond the control and without the fault or negligence of the contractor. If the unusually severe weather delay days encountered exceed the thirty (30) year average, either a time extension for an equitable number of days or costs for schedule recovery will be considered by the Owner.

18.2.2 If unusually adverse weather conditions are a basis of a claim for additional time, the weather experienced at the Project site during the time of completion for the Project must exceed the schedule based on the National Oceanic and atmospheric Administration (NOAA) for the Denver Area and will constitute the base line for monthly weather time evaluations. All subsequent monthly updates of the Contractor's project schedule will incorporate these anticipated adverse weather delays in all weather dependent activities. Actual adverse weather delays must prevent work on critical path schedule activities for fifty-one (51%) or more of the contractor's scheduled workday. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in the previous months), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the actual cumulative number of adverse weather delay days encountered exceed the number of anticipated above, giving full consideration for equivalent fair weather calendar days, either a time extension for an equal number of day or costs for schedule recovery will be considered by the Owner.

18.2.3 All requests for extension of time shall be subject to the Owner's approval and shall be made in writing to the Owner no more than seven (7) days after the occurrence

causing the delay; otherwise they shall be waived. Any request for extension of time for a change in the work or for any occurrence allegedly causing a delay as provided for herein must be substantiated by demonstrating the effect of the change or occurrence on the critical path of the Construction Schedule.

18.2.4 If no schedule or agreement is made stating the dates upon which written interpretations or detail drawings shall be furnished, then no claim for delay shall be allowed on account of failure to furnish such interpretations or drawings until fifteen (15) days after demand is made for them, and not then unless such claim is reasonable.

18.2.5 Should the time for completion of the Contract be extended, the Owner reserves the right to occupy any part of the structure upon written notice to the Contractor from the Architect or the Owner, but only after the Architect has made a thorough inspection accompanied by the Contractor's superintendent to note any defects in workmanship or materials which are the responsibility of the Contractor. Any such partial occupancy shall not be deemed a waiver of any provision for liquidated damages for delay in final completion.

18.2.6 When the whole or a portion of the work is suspended for any reason, each Contractor shall properly cover over, secure, and protect all work as may be susceptible to damage from any cause.

18.3 This Article does not exclude the recovery of damages by the Owner for delay under other provisions of the Contract Documents.

18.4 Waiver of Consequential Damages. Except as may otherwise be provided in the agreement and/or General Conditions for liquidated damages, the Contractor and the Owner waive claims against each other for consequential damages arising out of or relating to the contract, including, without limitation, all consequential damages due to the Owner's termination of the contract.

GC 19. HAZARDOUS MATERIALS

19.1 If the Contractor becomes aware of the presence of hazardous materials in any form at the project site including, but not limited to, asbestos or other toxic substances they shall, prior to commencement of any portion of the Work, provide notice to the District of the presence, location, and condition of any known or suspected materials that are discovered. Such notice shall be in writing and shall be submitted no more than twenty-four (24) hours after such materials are discovered.

19.2 In the event of such discovery not previously identified by the Owner, the Contractor shall not proceed with the Work until they have received written authorization from the District. If the Contractor proceeds with the Work without said authorization, they do so at their own risk.

19.3 In the event such materials are identified or encountered during the course of the Project, the District, at its expense, shall take all reasonable actions to properly and safely deal with such materials.

19.4 The Contractor acknowledges that the Contractor, its employees and agents, have the responsibility of being fully informed of the District's Management Plan as it relates to the buildings located at the Project site and shall consult with the District about how such plan addresses suspected or active asbestos containing material areas within such buildings. The contractor assumes responsibility for notification to workers of existing asbestos conditions.

Notification shall be made on approved EPA forms and includes posting of notices in accordance with OSHA, EPA and State Health Department guidelines.

19.5 All MSDS documents required by Federal and State law shall be kept available on site in the contractor's trailer or office.

19.6 All hazardous material and waste shall be secured, contained (secondary containment as necessary), labeled properly and used or disposed of in accordance with local, State and Federal regulations.

19.7 The contractor shall be responsible for spill containment, clean up and any other associated costs resulting from an illicit discharge of hazardous materials or waste. The contractor shall review, understand and follow the Districts illicit discharge reporting procedures.

GC 20. CHANGED CONDITIONS

20.1 The Contractor shall promptly, and before such conditions are disturbed, notify the Owner and the Architect in writing of: (1) sub-surface or latent physical conditions at the site differing materially from those indicated in the Contract Documents, or (2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents. The Owner and the Architect shall promptly investigate the conditions, and if the Owner finds that such conditions do so materially differ and cause an increase or decrease in the cost of, or the time required for, performance of the work, an equitable adjustment shall be made and the Contract modified in writing accordingly. Any claim of the Contractor for adjustment hereunder shall not be allowed unless Contractor has given notice as above required, shall be subject to the Owner's approval and shall be made in writing to the Owner no more than seven (7) calendar days after the identification of the conditions; otherwise they shall be waived.

GC 21. CORRECTION OF WORK

21.1 Correction of Work Before and After Completion. The Architect or Owner has the authority to condemn work which is defective or does not conform to the Contract Documents. The Contractor, following written demand, shall promptly correct all work rejected by the Architect or Owner as defective or as failing to conform to the Contract Documents whether observed before or after final completion and whether or not fabricated, installed, or completed. The Contractor shall bear all costs of correcting such rejected work, including the cost of the Architect's and/or Owner's consultant's additional services. If the Contractor proceeds to build in or cover the item which has been rejected, they shall be totally responsible for the cost of removal and replacement of said item and removal and replacement of all necessary work surrounding or covering the item in order to produce a first-class job.

21.2 Tests to Determine Conformance. Whenever in the opinion of the Architect or the Owner, tests are essential to assure the professional evaluation of the work which is subject to being rejected or condemned, the necessary number of tests will be performed by the consultants designated by the Owner. The recommendation of this consultant is final and all parties to the Contract will comply with the methods and extent of the corrections submitted

in writing to the Owner and the Architect by the designated consultant. The cost of the tests will become the Contractor's responsibility when corrections of any nature are recommended by the consultant to the investigated work; otherwise, the Owner will pay for all tests performed. Should such special testing, inspection, or approval be caused by the Contractor's failure to follow the requirements of the Contract Documents or of required tests under GC 15 testing indicating conditions not in conformance with the Contract Documents, the costs of such additional testing, inspection, or approval shall be borne by the Contractor, regardless of the results.

21.3 Removal of Rejected Work. The Contractor shall promptly remove from the premises all work rejected by the Architect or Owner as failing to conform to the Contract Documents whether physically in place or not. Thereafter, the Contractor shall promptly replace and re-execute such work in accordance with the Contract and without expense to the Owner. The Contractor shall further bear the expense of making good all work of other subcontractors found to be defective or destroyed or damaged by such removal or replacement.

21.3.1 If the Contractor does not remove such rejected work within a reasonable time, fixed by written notice from the Owner through the Architect, the Owner may remove it and may store the material at the expense of the Contractor. If the Contractor does not pay the expenses of such removal within ten (10) days' time thereafter, the Owner may, upon ten (10) days' written notice, sell such materials at auction or at private sale. In such case, the Owner shall account to the Contractor for the net proceeds thereof, after deducting all the costs and expenses that should have been borne by the Contractor, including compensation for additional Architect or consultant services. If the net proceeds of sale do not cover all costs which the Contractor should have borne, the difference shall be charged to the Contractor and an appropriate change order shall be issued. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

21.4 Correction of Work After Final Payment. Neither the final estimate nor payment nor any provision in the Contract Documents shall relieve the Contractor of responsibility for faulty materials or workmanship and, unless otherwise specified, they shall remedy any defects due thereto and pay for any damage to other work or property resulting therefrom, which shall appear within a period of one (1) year from the date of final completion and acceptance. This warranty shall be in addition to and not in lieu of all other remedies available to the Owner.

21.5 Failure to Correct the Work. If the Contractor fails to correct such defective or nonconforming work, the Owner may correct it and otherwise proceed against the Contractor for the cost thereof in accordance with the provisions of these General Conditions.

21.6 Deductions for Uncorrected Work. If the Owner deems it inexpedient to correct work that has been damaged or is defective or has not been completed in accordance with the Contract Documents, an appropriate deduction from the Contract price shall be made and reflected by a change order, or, if the amount is determined after final payment, it shall be paid by the Contractor.

21.7 Additional Obligations. The obligations of the Contractor to correct the work shall be in addition to, and not in limitation of, any other obligations imposed upon them by law, special guarantees, warranties, or other rights of the Owner.

GC 22. OWNER'S RIGHT TO CARRY OUT WORK

22.1 If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this Contract, the Owner, after three (3) working days' written notice to the Contractor, may, without prejudice to any other remedy they may have, make good such deficiencies and may deduct the reasonable cost thereof from the payment then or thereafter due the Contractor. In the event such work is performed by the Owner, the Owner's employees, or by persons other than the Contractor at the Owner's request, the Owner shall not be liable to the Contractor for inconvenience expense or subsequent cost of removal of such work. The amount to be deducted as cost of doing the work shall include the cost of the Architect's additional services made necessary by such default. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

GC 23. OWNER'S RIGHT TO TERMINATE CONTRACT

23.1 With Cause. If the Contractor should fail to perform the work with reasonable and due diligence or refuse to supply sufficient skilled works or materials of the proper quality, or should the contractor be adjudged a bankrupt; or it should make a general assignment for the benefit of its creditors without approval of the Owner; or if a receiver should be appointed on account of its insolvency; or if it should refuse or should fail, except in cases for which extension of time is provided; or if it should fail to make prompt payment to subcontractors or for material or labor; or disregard laws, ordinances, or the instructions of the Architect or Owner; or otherwise be guilty of a material violation of any provision of the Contract; then the Owner, when in its sole opinion sufficient cause exists to justify such action, may, without prejudice to any other right or remedy and after giving the Contractor, and his surety, if any, seven (7) days' written notice, terminate the employment of the Contractor and take possession of the premises and of all materials, tools, and appliances thereon and finish the work by whatever method the Owner may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the work is finally completed and accepted by the Owner. If the unpaid balance of the Contract sum shall exceed the expense of completing the work, including compensation for additional architectural, managerial, consultant, and administrative services, such excess shall be paid to the Contractor. If such expense shall exceed such unpaid balance, the Contractor shall pay the difference to the Owner. The expense incurred by the Owner, as herein provided, and the damages incurred through the Contractor's default, shall be determined by the Owner.

23.2 Without Cause. Should conditions arise which in the Owner's opinion make it necessary or advisable to discontinue work under the Contract Documents, the Owner may terminate the Contract in whole or in part without cause or fault by the Contractor by giving seven (7) calendar days' written notice to the Contractor. The notice shall specify the date and extent to which the Contract is terminated. Upon any such termination, the Owner shall take possession of the site and all or any part of the materials and equipment delivered or en route to the site. In the event of termination under this paragraph the Contractor shall be equitably paid for all work properly completed, based upon the approved Schedules of Values.

GC 24. PAYMENT

24.1 Schedule of Values. Payments will be made on the valuation of the work done. Before any Request for Payment will be considered, the Contractor shall submit to the Architect and the Owner a complete, itemized schedule of the values of the various parts of the work, aggregating the total sum of the Contract and separating material costs from other costs. Such schedule shall include as costs the material costs of all subcontractors under such Contractor and the costs of all materials to be taken from the Contractor's or subcontractors' own stocks of material. The schedule shall be submitted on forms supplied by the Owner and, if required, supported by such evidence as to its correctness as the Architect or the Owner may direct. Each item on the schedule of values shall include its proper share of overhead and profit. This schedule will be used for the estimates and payments provided for in these General Conditions. Along with such schedule the Contractor shall submit a schedule of values of estimated monthly application amounts for the course of the work to assist the Owner in arranging payment.

24.2 Payments to Contractors. Partial payments will be made as the work progresses within fifteen (15) days of the Owner's receipt of the Application for Payment of Contractor, which is properly completed and has been approved by the Architect. If the Owner has an issue with or does not approve the Application for Payment of Contractor, the Owner will notify the contractor in writing. Request for Payment shall be submitted to the Architect on a regularly established monthly schedule approved by the Owner. The Owner reserves the right to withhold payments at any time regardless of the Architect's recommendations. The Request for Payment shall be based on the same items as are shown in the schedule of values itemizing the material used and work performed for which payment is claimed. In preparing estimates, material delivered and properly stored on the site and preparatory work done may be taken into consideration.

24.2.1 If payments are made on account of materials not incorporated in the work, but delivered and suitably stored at the site, or at some other location that is bonded and insured and agreed upon in writing, such payments shall be conditioned upon submission by the Contractor of bills of sale or such other procedures which will establish the Owner's interest, including applicable insurance and transportation to the site.

24.2.1.1 Off site stored material must be made available for inspection by owner, architect, consultants and/or contractor prior to pay applications being approved.

24.2.1.2 Material must be clearly identified as property of owner, and stored in a manner as to be easily distinguished from general inventory. This may include the actual development of an area that can be fenced off from other inventory.

24.2.1.3 Request for payment will include all applicable invoices, a bill of sale and a certificate of insurance which states the dollar amount of the stored material. All dollar amounts on invoices, the bill of sale and the insurance certificates shall match exactly the amount being billed for on the application.. The insurance certificate must also name the owner as additionally insured.

24.2.1.4 When requested by owner or architect, general contractor will set up the inspection meeting and general contractor will be present at inspection.

24.2.1.5 Payment applications for shop drawings will be allowed, but not approved for payment until the shop drawings have been submitted to architect, approved by both architect and owner and all corrections have been completed..

- 24.2.2** Payments will be made in the full value of the work performed and material stored less ten percent (10%) of such value which shall be retained until completion and acceptance of all work, unless otherwise agreed by Owner, and less the aggregate of any previous payments. Upon the certified completion of fifty percent (50%) of the work, as determined by the Architect and the Owner, and if satisfactory progress is being made in the work, in the sole opinion of the Owner, then no retainage shall be made from further monthly payments, subject to any retainages made by the Owner from the final payment. The full Contract retainage may be reinstated if the manner of completion of the work and its progress do not remain satisfactory to the Owner. Upon satisfactory completion and final acceptance of each separate building or portion of the building or other division of the Contract upon which agreement has been reached as to its separate price, the Owner may make payment in full, including retained percentages thereon less deductions as determined by the Owner. Before such payment is made, the Owner shall determine that satisfactory and substantial reasons exist for the payment and shall require written approval from any surety furnishing bonds for the work. Partial and final payments by the Contractor to their subcontractors shall be made in the same manner as provided herein between the Owner and the Contractor.
- 24.2.3** Under any Contract exceeding Eighty Thousand Dollars (\$80,000), pursuant to which sums are withheld to assure satisfactory performance, the Contractor may withdraw the whole or any portion of such sums withheld if the Contractor deposits acceptable securities with the Owner in an amount at all times at least equal to the amount withdrawn. All such withdrawals shall be on the Owner's approved forms and shall require that the acceptable securities be endorsed in favor of the Owner, authorizing the Owner to negotiate the acceptable securities and to receive the payments due.
- 24.2.4** The Contractor warrants and guarantees that title to all work, materials, and equipment covered by a Request for Payment, whether incorporated in the project or not, will pass to the Owner upon the receipt of such payment by the Contractor, free and clear of all liens, claims, security interests, or encumbrances; and that no work, materials, or equipment covered by a Request for Payment will have been acquired by the Contractor or by any other person performing the work at the site or furnishing materials and equipment for the project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person. This provision shall not be construed as relieving the Contractor from the sole responsibility for all materials and work upon which payments have been made or the restoration of any damaged work or as a waiver of the right of the Owner to require the fulfillment of all the terms of the Contract.
- 24.3** Certificates for Payments. No Request for Payment shall be submitted to the Owner until and unless it has been certified by the Architect. No Certificate for a progress payment, nor any progress payment, nor any partial or entire use or occupancy of the project by the Owner shall constitute an acceptance of any work not completed in accordance with the Contract Documents.
- 24.4** Payments Withheld. The Owner may withhold payment or the Architect may decline to issue a Certificate for Payment in whole or in part, or the Architect may withhold or nullify the whole or any part of any Certificate previously issued, because of subsequently discovered evidence or subsequent inspections, for such an amount or to such extent as may be necessary in the opinion of either to protect the Owner from loss on account of:

- 24.4.1 Defective work not remedied;
- 24.4.2 Claims filed or reasonable evidence indicating probable filing of claims;
- 24.4.3 Failure of the Contractor to make payments properly to subcontractors or material or labor;
- 24.4.4 A reasonable doubt that the Contract can be completed for the balance then unpaid;
- 24.4.5 Damage to another contractor;
- 24.4.6 Failure of the Contractor to prosecute any portion of the work in a timely manner or in compliance with any approved schedules;
- 24.4.7 Failure of the Contractor to submit on a timely basis any documentation required by the Contract Documents, including, without limitation, monthly schedule status updates, schedule of values, or request for approval of subcontractors.

GC 25. CONSTRUCTION SCHEDULE AND PROGRESS REPORTS

25.1 The Contractor shall submit, prior to Notice to Proceed in a format acceptable to the Owner, a construction schedule for the project. This schedule shall start with the date of the Notice of Contract Award, and the completion date shall be the date specified in the Construction Agreement. The schedule shall portray fully a timetable representing the various activities in the schedule of values and shall include submittal schedule and long lead material activities. The contractors schedule shall include activity dependencies and logic to clearly indicate the projects Critical Path activities. The time shown between the starting and completion dates of the various activities within the schedule shall represent one hundred percent (100%) completion of each activity. Additional detailed schedules of separate activities of work may be requested at the Owner's discretion. No Request for Payment will be accepted by the Owner until this schedule has been submitted as required herein. This schedule shall be revised at a minimum every month during the progress of the work or when the actual progress, in the opinion of the Architect or the Owner, varies materially from the last monthly schedule status update. At each weekly Owner, Architect, Contractor meeting the contractor is required to present a 3 week short interval schedule detailing the up coming work.

25.2 The Contractor shall submit with their "Application of Payment for Contractor" the monthly statused schedule reflecting the work in place. The monthly statused schedule shall depict progress and percentage of completion of activities consistent with the values and amounts contained in the "Application of Payment for Contractor". The contractors subcontractors shall be supplied copies of the accepted schedule. Failure to submit a monthly statused schedule update shall be deemed cause to reject Requests for Payment.

25.3 The Contractor shall schedule all work so as to reduce to a minimum any disruption in the use of the existing facilities and interruptions of utility service of any type. Where electrical or mechanical work performed under this Contract will necessitate interruptions of service to existing facilities, the Contractor shall furnish and install temporary service to such facilities or perform such work at such times when said existing utilities are not in normal use. This Contractor shall bear the cost of all overtime or inconvenience resulting therefrom.

25.4 During the course of construction the Contractor shall maintain free and unimpeded all required exits from the building. Barricades shall be so erected that traffic is separated and protected from the construction. Such exits shall not be closed at any time for any reason

while the building is occupied or at any time when the building is unoccupied except after written approval is given by the Owner and proper warning and directional signs are posted.

GC 26. INSURANCE

26.1 The Contractor shall purchase and maintain, without interruption, throughout the term of the Contract and for a period of one (1) year following the date of Final Acceptance of the Work, such insurance as will protect him from claims set forth below which may arise out of or result from the Contractor's operations under the Contract, whether such operations be by himself or by any subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. All such insurance shall be subject to the approval of the Owner for adequacy of protection, and, to the extent available, shall include a provision preventing cancellation without thirty (30) days' prior notice to the Owner in writing.

26.2 Liability Insurance Requirements. The Contractor shall procure and maintain, at his own expense, liability insurance as hereinafter specified. The liability insurance required is as follows:

26.2.1 Contractor's General Public Liability and Property Damage Insurance issued to the Contractor and protecting him from all claims for personal injury, including death and occupational sickness and disease, and all claims for destruction of or damage to property arising out of or in connection with any operations under his Contract, whether such operations be by himself or by a subcontractor under him, or anyone directly or indirectly employed by the Contractor or by a subcontractor under him, or by anyone for whose acts any of them may be liable.

26.2.1.1 All such insurance shall be written with a limit of liability of not less than \$2,000,000 for all damages arising out of bodily injury, including death, at any time resulting therefrom, and property damage and employer's liability up to \$2,000,000.

26.2.1.2 All such insurance shall be written on a comprehensive policy form and shall specifically cover all blasting operations, elevators, products, completed operations, explosions, collapse, subsidence, and underground damage. Certificates evidencing the issuance of such insurance, addressed to the Owner, shall be filed with the Owner within ten (10) days after the date of the Notice of Contract Award.

26.2.2 The policy shall name Owner as additional insured and shall be endorsed to be primary and non-contributory for Owner. Coverage shall not exclude contractual or products and completed operations liability, nor liability for explosions, collapse or underground risks. Coverage shall remain in force for a period of One (1) year from the date of Final Acceptance of the Work. The parties hereto understand and agree that the additional insured Owner is relying on and does not waive or intend to waive by this Contract any provision hereof, including the provision of this section, the monetary limitations, or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, C.R.S. 24-10-101 et seq., as from time to time amended, or otherwise available to the Owner.

26.3 During the term of the Contract and for a period of one (1) year following the date of Final Acceptance of the Work, the Contractor shall not cancel or refuse to renew the liability insurance required above without the written approval of the Owner, which approval may be withheld at the sole discretion of the Owner. With each Request for Payment submitted by

the Contractor, the Contractor shall submit an updated and current certificate of insurance or other evidence, to the reasonable satisfaction of the Owner, evidencing the liability insurance coverage required herein. The Contractor shall notify the Owner immediately upon receipt of any notice from the insurer of any cancellation, termination, or non-renewal of the policy.

26.4 Worker's Compensation Insurance. The Contractor shall maintain at his own expense, until completion of the work and final acceptance thereof by the Owner, Worker's Compensation Insurance, including occupational disease provisions, covering the obligations of the Contractor in accordance with the provisions of the laws of the State of Colorado and Employer's Liability of not less than \$100,000 per occurrence and \$100,000/disease for each employee. The Contractor shall furnish the Owner with a certificate giving evidence that the Contractor is covered by the Worker's Compensation Insurance herein required, each certificate specifically stating that such insurance includes occupational disease provisions. All such certificates shall be furnished within ten (10) days after the date of the Notice of Award.

26.5 Builder's Risk Completed Value Insurance. The Owner shall pay for and maintain Builder's Risk Completed Value Insurance, insuring property of every kind and description to be incorporated into the work, including materials and supplies, used or to be used, as part of or incidental to the construction operations. The insurance shall exclude the Contractor's and its subcontractors' equipment, tools, and machinery, or any other items of any description that are not incorporated into the work. Faulty workmanship shall also be excluded. The Builder's Risk Insurance shall provide coverage against physical loss or damage caused by fire, theft, vandalism, malicious mischief, collapse, and "extended coverages." The insurance shall include a minimum deductible of \$5,000. The Contractor shall pay costs not covered because of such deductibles. The Builder's Risk Insurance shall remain in effect until 12:00 noon on the day following the date of the final acceptance of the entire project, whether or not the project or some part thereof is occupied in any manner prior to such final acceptance.

26.5.1 A loss insured under the Owner's Builder's Risk Insurance shall be adjusted by the Owner and made payable to the Owner on behalf of the Contractor and its subcontractors as their interests may appear. The Contractor shall pay subcontractors their just portions of any insurance proceeds received by the Owner and paid to the Contractor.

26.5.2 Unless the Owner agrees otherwise, in writing, all monies received shall be applied toward rebuilding or repairing the destroyed or damaged work.

26.5.3 The Contractor and his subcontractors and suppliers waive all rights against the Owner for damages caused by fire or other perils to the extent covered by the Builder's Risk Insurance obtained pursuant to this section or other property insurance applicable to the work, except such rights as they may have to the proceeds of such insurance held by the Owner on their behalf. The Contractor shall require similar waivers of his subcontractors, sub-subcontractors, agents, and employees of any of them.

26.6 Comprehensive Automobile Liability. The Contractor shall pay for and maintain Comprehensive Automobile Liability Insurance, including owned, non owned, and hired vehicles in the following amounts:

26.6.1 Bodily Injury and Property Damage: \$2,000,000

26.7 Insurance Companies. The Owner will accept the policies written only by sureties legally authorized in the State of Colorado and rated in Best's Insurance Guide (latest edition), not lower than A- or have a Best's Financial Rating of at least X.

GC 27. PERFORMANCE AND PAYMENT BONDS

27.1 The Contractor shall, within ten (10) days of the Notice of Contract Award, furnish bonds to the Owner in the full amount of the Contract price, covering both the faithful performance of the Contract and the payment of all obligations for labor and materials arising thereunder, on such forms as the Owner may prescribe and with such sureties as he may approve. Such bonds shall be duly executed by a qualified surety, conditioned upon the true and faithful performance of the Contract, and shall provide that if the Contractor or his subcontractors fail to duly pay for any labor, materials, or other supplies used or consumed by such Contractor or their subcontractors in the performance of the work contracted to be done, the surety will pay the same in an amount not exceeding the sum specified in the bond, as adjusted by approved change orders, and together with interest as provided by law. The Performance Bond shall additionally guarantee that the Contractor shall remedy any omissions, correct any and all defects, and adjust and make operable all component parts of the work falling under the requirements of his Contract which may be called to his attention within a period of twelve (12) months following the date of the Letter of Acceptance.

27.2 The premium for all bonds shall be paid by the Contractor and included in the bid price in the Bid Proposal. The Owner will accept and approve bonds written by sureties legally authorized to write such bonds in the State of Colorado, provided such surety companies are rated in Best's Insurance Guide (latest edition), not lower than A- or have a Best's Financial Rating of at least X. If, at any time a surety on such a bond becomes irresponsible or loses its right to do business in the State of Colorado, the Owner may require another surety acceptable to the Owner, which the Contractor shall furnish within ten (10) days after receipt of written notice to do so.

27.3 Subcontractors pre-qualified by the Owner, prior to bidding, that enter into a subcontractor agreement with the Contractor for any portion of the work, shall provide the Contractor with Performance and Payment Bonds in accordance with the Contract Documents on the basis of their subcontract scope of work to the Contractor.

27.4 The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.

GC 28. SUBCONTRACTS

28.1 The Contractor shall, within twenty-four (24) hours following the bid opening, provide to the Owner the entire list of subcontractors and suppliers of labor and materials whose quotations it has used in preparation of its bid. The Contractor shall, before awarding any subcontracts, re-verify to the Owner and Architect in writing on the standard form "Request for Approval of Subcontractors" the names of subcontractors proposed for the project. Any deviation from the original subcontractor and supplier list will not be allowed unless justification is submitted in writing to the Owner by the Contractor that the subcontractor or supplier is deemed unfit or unable to perform the specified work, is unwilling to enter into a subcontract, or is not in compliance with the Contract Documents. The Contractor shall not employ any subcontractors that the Owner or Architect may, within a reasonable time, object to as incompetent, unfit, or otherwise undesirable. Substitutions of

subcontractors listed in the executed proposal form may not be made without written approval of the Owner.

28.2 If, before or after the execution of the Contract, a change of any subcontractor on such list is required by the Architect or by the Owner prior to the award of the relevant contract, the contract sum may be increased or decreased by the difference in cost occasioned by such change and an appropriate change order shall be issued.

28.3 The Owner shall, on request, furnish to a subcontractor, wherever practicable, evidence of the amounts certified on his account. The Contractor agrees that he is as fully responsible to the Owner for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

28.4 The Contractor, at the conclusion of the work and before final payment is made, shall furnish to the Owner a listing, giving names, contact persons, addresses, and telephone numbers of all subcontractors and material suppliers who furnished labor and materials on the project with identification of the services rendered and materials provided.

28.5 Nothing contained in the Contract Documents shall create any direct contractual relation between any subcontractor and the Owner.

GC 29. RELATIONS OF CONTRACTOR AND SUBCONTRACTOR

29.1 The Contractor agrees to bind every subcontractor by a written agreement and require in his contracts that every subcontractor be bound by the terms of the Construction Agreement, the General Conditions of the Contract, the Supplementary General Conditions, the drawings and specifications as far as applicable to his work, including the following provisions of this Article, unless specifically noted to the contrary in a subcontract approved in writing as adequate by the Owner.

29.2 The subcontractor agrees with the Contractor:

29.2.1 To be bound to the Contractor by the terms of the Construction Agreement, General Conditions of the Contract, the Supplementary General Conditions, the drawings and specifications, and any other Contract Documents, and to assume toward him all the obligations and responsibilities that he, by those documents, assumes toward the Owner;

29.2.2 To preserve and protect the rights of the Owner and the Architect under the Contract with respect to the work to be performed under the subcontract so that the subcontracting thereof will not prejudice such rights;

29.2.3 To perform all work in accordance with the requirements of the Contract Documents;

29.2.4 To submit to the Contractor applications for payment in such reasonable time as to enable the Contractor to apply for payment as specified in the General Conditions;

29.2.5 To make all claims for extras, for extensions of time, and for damages for delays or otherwise, to the Contractor in the manner provided in the General Conditions of the Contract and the Supplementary General Conditions for like claims by the Contractor upon the Owner, except that the time for making claims for extra cost is one week.

29.3 The Contractor agrees:

29.3.1 To be bound to the subcontractor by all the obligations that the Owner assumes to the Contractor under the Agreement, General Conditions of the Contract, the Supplementary General Conditions, the drawings and specifications, and by all the provisions thereof affording remedies and redress to the Contractor from the Owner.

- 29.3.2** To pay the subcontractor not later than fourteen (14) calendar days immediately following the payment of each certificate issued under the schedule of values described in these General Conditions, the amount allowed to the Contractor on account of the subcontractor's work to the extent of the subcontractor's interest therein.
- 29.3.3** To pay the subcontractor, upon the payment of Certificates, if issued otherwise than as above, so that at all times his total payments shall be as large in proportion to the value of the work done by him as the total amount certified to the Contractor is to the value of the work done by him.
- 29.3.4** To pay the subcontractor to such extent as may be provided by the Contract Documents or the subcontract, if either of these provides for earlier or larger payments than the above.
- 29.3.5** To pay the subcontractor a just share of any insurance payment received by the Contractor, applicable to work performed by such subcontractor.
- 29.4** The Owner may require the Contractor to submit verified documentation evidencing that full and timely payments have been made to the subcontractors and suppliers and/or that legal justification exists for withholding payments. In addition, the Owner may contact the subcontractors and suppliers directly to obtain verification that payments have been made as required by law or the Contract Documents.
- 29.5** Nothing in this Article shall create any obligation on the part of the Owner to pay or to see to the payment of any sums to any subcontractor, nor shall it form the basis for any action by the subcontractor against the Owner on any contractual theories.
- 29.6** The Contractor shall arrange for the foreman of each subcontractor (mechanical, electrical, masonry, plastering, painting, etc.) on the job to meet with the Architect at the job prior to any work being started by this particular subcontractor so that all phases of the subcontractor's work can be thoroughly discussed and the quality of materials and workmanship expected can be completely understood and agreed upon.

GC 30. ARCHITECT'S STATUS AND INSPECTIONS

- 30.1** Authority. The Architect shall be the Owner's representative during construction and until the expiration of the warranty period. He shall have authority to act on behalf of the Owner only to the extent expressly provided in the Contract Documents or otherwise in writing. The Architect, with written approval of the Owner, shall have authority to stop the work whenever such stoppage may be necessary in his reasonable opinion to ensure the proper execution of the Contract.
- 30.2** Decisions. The Architect shall be, in the first instance, the interpreter of the conditions of the Contract and the judge of its performance, although the Owner shall retain the final authority in decisions regarding such matters. The Architect shall, within a reasonable time, make recommendations on all claims of the Contractor and on all other matters relating to the execution and progress of the work. All such decisions shall be subject to review by the Owner. The Architect's decisions in matters relating to artistic effect, after consultation with the Owner, shall be final, if within the terms of the Contract Documents.
- 30.3** Inspections. The Contractor shall provide timely notice to the Architect when inspections are desirable or required by the terms of the Contract Documents or the

Architect's Agreement with the Owner. Such notice shall be given in order to allow for the following reviews and inspections, among others:

- 30.3.1 Reviewing and approving shop drawings samples and other submissions for conformance with the design concept of the project and for compliance with the information given in the Contract Documents;
- 30.3.2 Inspection of bearing surfaces of excavations before footings are poured;
- 30.3.3 Inspection of reinforcing steel after installation and before concrete is placed;
- 30.3.4 Inspection of structural and architectural concrete before, during, and after pouring;
- 30.3.5 Evaluation of all laboratory reports;
- 30.3.6 Inspection of structural steel after erection and prior to its being covered or enclosed;
- 30.3.7 Inspection of mechanical work following its installation and prior to its being covered and enclosed;
- 30.3.8 Inspection of electrical work following its installation and prior to its being covered or enclosed; and
- 30.3.9 Inspection of exposed surfaces for compliance with the Construction Documents.

GC 31. CASH ALLOWANCES

31.1 The Contractor shall include in the Contract sum all allowances stated in the Contract Documents. These allowances shall cover the net cost of the materials and equipment delivered and unloaded at the site, and all applicable taxes. The Contractor's handling costs on the site, labor, installation costs, overhead, profit, and other expenses contemplated for the original allowance shall be included in the Contract sum and not in the allowance. The Contractor shall cause the work covered by these allowances to be performed for such amounts and by such persons as the Owner or Architect may direct, but they will not be required to employ persons against whom he makes a reasonable objection. If the cost, when determined, is more than or less than the allowance, the Contract sum shall be adjusted accordingly by change order which will include additional handling costs on the site, labor, installation costs, overhead, profit, and other expenses resulting to the Contractor from any increase over the original allowance.

GC 32. USE OF PREMISES

32.1 The Contractor shall confine their apparatus, the storage of materials, and the operations of workers to limits indicated by law, ordinances, permits, and the Contract Documents and shall not unreasonably encumber the premises with their materials. The Contractor shall not load or permit any part of the structure to be loaded with a weight that will endanger its safety. The Contractor shall enforce all Owner instructions and other regulations regarding signs, advertisements, fires, and smoking and shall not allow the possession or consumption of alcohol or drugs on the premises by their personnel or any subcontractor personnel.

GC 33. CUTTING, PATCHING, AND EXCAVATING

33.1 The Contractor shall do all cutting, fitting, or patching of the work that may be required to make its several parts come together properly and fit it to receive or be received by work of the subcontractors shown upon, or reasonably implied by, the drawings and specifications for the completed structure.

33.2 Any cost caused by defective or improperly timed work shall be borne by the party responsible therefor. The Contractor shall not endanger any work by cutting, excavating, or otherwise altering the work and shall not cut or alter the work of any subcontractor except with the consent of the Architect.

33.3 Each subcontractor shall leave all chases, holes, or openings straight, true, and of proper size in their own work, or cut the same in existing work as may be necessary for the proper installation of their own or another subcontractor's work, consulting with the Architect and the Contractor regarding proper location and size of same. In case of their failure to leave or cut same in the proper place, they shall cut them afterward at their own expense. No excessive cutting will be permitted, nor shall any piers or other structural members be cut or modified in the field without the written consent of the Architect. After such work has been installed, they shall carefully fit around, close up, repair, patch, and point up same as directed to the entire satisfaction of the Architect. Each section of this specification shall include all cutting, patching, and excavating for that trade division unless specifically stated to the contrary.

GC 34. CLEANING UP

34.1 The Contractor shall at all times keep the premises free from accumulations of waste material or rubbish caused by their employees or work, and shall remove all rubbish as often as is necessary or as directed by the Owner or the Architect. At the completion of the work, he shall remove all his rubbish from and about the building, and all his tools, scaffolding, and surplus materials and shall wash all glazing and window frames inside and outside throughout the building, removing all stains, paint, etc., on same. Care shall be taken not to scratch the glazing in this clean up.

34.2 All doors and wall coverings shall be left thoroughly clean and finished; all walls and ledges shall be dusted; all plumbing fixtures shall be cleaned; all hardware shall be free of all labels, paint, stains, dust, dirt, and the like; all marks, stains, fingerprints, other oil, and dirt shall be removed from painted, decorated, or natural finish work and the building will be ready for occupancy except for being further equipped by the Owner. In case of dispute, the Owner may perform such cleaning up as may be required and charge the cost to the Contractor.

GC 35. STATUTES, ORDINANCES, AND REGULATIONS

35.1 The Contractor and all subcontractors shall comply with all applicable federal and state statutes, rules, regulations, and directives of the State Department of Labor, Safety Inspection Branch, or any other governmental body having jurisdiction over the work to be performed. Should any of the provisions of the Contract Documents be in conflict therewith, then that portion which is in conflict shall be considered stricken and the applicable statute,

ordinance, regulation, or ruling substituted therefor. All such cases of apparent conflict coming to the attention of any party shall immediately be called to the attention of the Owner. The Contractor shall strictly observe and comply with all federal and state laws pertaining to the employment and payment of labor.

GC 36. SALES AND USE TAX

36.1 The Contractor shall coordinate with the Owner to ascertain whether a sales or use tax may be collectible on the purchase of building materials, supplies, and equipment used for this project by the Contractor. Some cities and municipalities will charge a sales or use tax on building materials, supplies, and equipment "picked up" and/or used within that city or municipality by a contractor. Whenever possible, the Contractor shall have building materials, supplies, and equipment for this project delivered to the construction site by common carrier, conveyance by the seller, or by mail to avoid city or municipal sales and use taxes for which refunds will not be made. The Owner is exempt from the payment of any State sales and State use taxes for materials, supplies, and equipment used upon this project by the Contractor and subcontractors. For the purpose of exercising such exemption, the Contractor and all their subcontractors shall apply for and obtain a Certificate of Exemption for the work from the Colorado Department of Revenue. A copy of such Certificates shall be filed with the Owner before any materials are purchased or any work commenced hereunder.

GC 37. APPROVAL OF SUBSTITUTIONS

37.1 The Contractor will be held to have used in his base proposal and to furnish under the Contract those items of equipment and/or materials which are specifically identified in the specifications by a manufacturer's name, model, or catalog number. Items of equipment of the Contractor's choice may be offered as alternates to the items named in the specifications by submitting with the proposal and on the form provided, identifying data on the articles proposed, together with a statement of the amount of addition or deduction from the base bid if the bidder's alternate is accepted. Prior approval by the Architect is not required on items submitted as alternate bids. After execution of the Contract, substitution of equipment and/or materials of makes other than those specifically named in the Contract Documents may be approved by the Owner so long as the equipment or material proposed for substitution in the opinion of the Owner is just as suitable as equipment and/or materials named in the specifications so far as performance, construction, efficiency, and utility are concerned. A request for substitution shall ordinarily be required to be based upon one or more of the following grounds for justification: the submitted material is no longer available, a substitution will improve lead time, quality will be improved (documented detail required), or the Owner will incur substantial savings. All requests for substitution must be submitted in writing with supporting documentation by or through the Contractor to the Architect for initial review, before being submitted to the Owner for evaluation and final approval. In the absence of the Owner's written approval, no substitution of materials or methods will be allowed for any items specified in the Contract Documents.

37.2 In case of a difference in price, occurring as a result of an approved substitution, the Owner shall receive all benefit of the difference in cost involved in the substitution. All

approved substitutions will be documented by the issuance of a formal change order as provided in these General Conditions.

GC 38. OCCUPANCY

38.1 The Contractor, upon the Owner's written request, shall allow the Owner to occupy portions of the work and to place and install, subject to reasonable restrictions, as much equipment and furnishings during the progress of the work as is possible without interfering with the progress of the work. Such occupancy and the placing or installing of equipment and furnishings shall not in any way evidence the completion of the work or signify the Owner's acceptance of the work, or any part of it. Equipment includes such things as kitchen equipment, etc. Furnishings include such things as lockers, benches, desks, etc. Prior to occupancy, when practicable, the Architect shall make a thorough inspection accompanied by the Contractor's superintendent to note any defects in workmanship or materials which are the responsibility of the Contractor. The provisions of the Article shall not be in limitation of the Owner's rights set forth in GC 18, claims for extra cost or additional time, herein.

GC 39. DAMAGE TO UTILITIES

39.1 The Contractor shall take adequate precautions to protect existing utilities on and off the site and avoid damage thereto. The Contractor shall repair or replace or have repaired or replaced at their own expense any damage to streets, water, sewer, light, power, cable, or telephone lines, damaged by reason of their work.

39.2 The location and extent of underground utilities and cables and conduit as indicated on the drawings are not guaranteed. This information is shown only for such use as bidders and Contractors may choose to make of it. All Contractors shall check with all public utilities companies for locations and shall comply with their regulations regarding their utilities in performing the work.

39.3 Active underground utilities shall be adequately protected from damage and if damaged shall be immediately repaired. Removal or relocation of same shall be done only as indicated on the drawings. If they are in use, they shall be maintained in continuous service. If not indicated on the drawings or not known to exist, the Contractor shall report discovery of such lines to the Architect and shall not proceed further until directed to do so.

39.4 Inactive or abandoned utilities, whether or not they are indicated on the drawings, shall be recorded as to location and depth and shall be removed for a distance of not less than three (3) feet from outside line of all concrete work unless otherwise required by regulations. Ends shall be capped or plugged. There will be no adjustment of Contract amount for work due to inactive or abandoned utilities.

GC 40. PROJECT SIGN

40.1 If required by the specifications, the Contractor shall provide a project sign. No other advertising is permitted on the project site.

GC 41. BLASTING

41.1 No explosives of any nature except for those normally employed in powder actuated tools, .38 caliber or smaller, shall be employed or used on any site except with the express and specific prior written approval of the Architect and the Owner and any appropriate governmental authorities, in each instance. The Contractor shall notify the Architect of need for such approval three (3) days prior to the proposed use of such explosives.

GC 42. HISTORICAL DATA

42.1 In addition to warranties, guarantees, operating instructions, etc., elsewhere specified, the Contractor, at the conclusion of the work and before final payment is made, shall furnish a listing, giving principal's names, addresses, and telephone numbers of all subcontractors and material suppliers who furnished labor or materials on the job with identification of the services rendered. There shall be provided one (1) copy for the Architect and two (2) copies for the Owner. All copies shall be delivered to the Architect for review and distribution.

GC 43. TESTING OF BUILDING SYSTEMS

43.1 The Contractor shall submit a written plan prior to completion and acceptance, consistent with the Contract Documents and applicable codes, for the testing of all building systems. All testing shall be of the complete system, before covering, or of individually separable larger portions of the system and shall be performed in the presence of the appropriate consultant and representative of the Owner. A written report shall be filed in the office of Construction Management, Jefferson County School District No. R-1, recording each test, and signed by such consultant.

GC 44. TEMPORARY OR TRIAL USAGE

44.1 Temporary or trial usage by the Owner of any mechanical device, machinery, apparatus, equipment, or any work or material supplied under the Contract before final completion and written acceptance by the Architect shall not be construed as evidence of the Architect's or Owner's acceptance of same or the commencement of any warranty periods.

44.2 The Owner has the privilege of such temporary or trial usage, for such reasonable time as the Owner and the Architect deem proper. The Contractor shall make no claim for damage or injury to or breaking of any parts of such work which may be caused by weakness or inaccuracy of structural parts or by defective materials or workmanship. If the Contractor so elects, they may, without cost to the Owner, make such trial usage. However, trials shall only be conducted with the Architect's prior approval and under their observation.

44.3 When heating, air conditioning, ventilating, exhaust, or other items of electrical or other equipment are installed, it shall be the responsibility of the Contractor installing such equipment to operate it for a satisfactory period of time as required by the Architect for proper testing of the equipment and instructing the Owner's operating personnel. All items of equipment, testing meters, testing instruments, and incidentals required for proper testing and for instructing the Owner's operating personnel, shall be provided by the Contractor responsible for providing and installing the equipment.

GC 45. ASSIGNMENT

45.1 Neither party to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other, nor shall the Contractor assign any moneys due or to become due to them hereunder, without the previous written consent of the Owner.

GC 46. SEPARATE CONTRACTS

46.1 The Owner reserves the right to let other contracts in connection with this work. The Contractor shall afford such other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work. The contractor shall properly connect and coordinate their work with the work of other contractors.

46.2 If any part of the Contractor's work depends for proper execution or results upon the work of any other contractor, the Contractor shall inspect and promptly report to the Owner through the Architect any defects in such work that render it unsuitable for such proper execution and results. His failure to inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of his work, except as to defects which may develop in the other contractor's work after the execution of his work.

46.3 To ensure the proper execution of his subsequent work, the Contractor shall measure work already in place and shall at once report to the Owner through the Architect any discrepancy between the executed work and the drawings.

GC 47. CONTRACTORS' MUTUAL RESPONSIBILITY

47.1 The entire project may be covered by more than one contract and in such case there will of necessity be a certain overlapping of contracts. Each contractor shall, therefore, take due notice of the work called for in contracts other than their own. Should the Contractor cause damage to any separate contractor on the work, the Contractor agrees, upon due notice, to settle with such other separate contractor by agreement, if they will so settle. If such other separate contractor sues the Owner on account of any damage alleged to have been so sustained, the Owner may notify the Contractor, who shall, at the Owner's option, defend such proceedings at the Contractor's expense or reimburse the Owner for the expenses incurred in defense, and, if any judgment against the Owner arises therefrom, the Contractor shall pay or satisfy it and pay all costs and expenses thereby incurred by the Owner.

GC 48. LIENS

48.1 It is hereby mutually understood by and between the parties hereto that no Contractor, subcontractor, materialman, vendor, laborer, mechanic, or other person, can or will contract for or in any other manner have or acquire any lien upon the building or works covered by this Contract, or the land upon which the same is situated.

GC 49. WORK IN EXISTING BUILDING

49.1 In addition to all other requirements of the Contract Documents, if the work involves an addition to an existing building, the Contractor shall erect and maintain during the progress of the work, suitable dustproof partitions to protect such building and the occupants thereof. If necessary, in the Owner's or Contractor's judgment or pursuant to manufacturer's directives or recommendations in order to protect occupants from noxious fumes, odors, or hazardous substances, the Contractor may be required to provide additional ventilation and/or work different or extended hours to avoid disruption to other activities within the existing building.

49.2 If any portions of an existing building are to be remodeled or repaired, such portions shall be adequately partitioned off with dustproof partitions and well ventilated. All remodeling work shall be scheduled and submitted to the Owner and Architect for approval. The various contractors shall schedule their work jointly, in order that each may accomplish their work within such existing building in an orderly fashion during regular school vacation periods, where possible, or in such a manner as to permit full use of the building and without impairment of any existing facilities.

GC 50. INDEMNIFICATION

50.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold the Owner and the Architect and their agents and employees harmless from and against all claims, damages, losses, and expenses, including attorneys' fees arising out of or resulting from the performance of the work, provided that any such claim, damage, loss, or expense (a) is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property, including the work itself and including the loss of use resulting therefrom, and (b) only to the extent that it is caused in whole or in part by any negligent or intentional act or omission or breach of contract 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. This specific indemnification by the Contractor is in addition to and not in lieu of other remedies which may be available to the Owner.

50.2 The obligations of the Contractor under this Article shall not extend to and will be reduced by the liability of the Architect or the Architect's Consultants to the extent directly attributable to and proximately caused by (A) the negligent preparation or approval of drawings or specifications, or (B) errors or omissions in written directions or instructions given by the Architect or the Architect's Consultants.

GC 51. LIQUIDATED DAMAGES FOR DELAY IN COMPLETION

51.1 It is understood and agreed that completion of the entire project within the time stated in the Contract Agreement is a matter of vital necessity to the Owner, that the Owner will suffer substantial damages if the entire project is not completed within that time, and that it would not be possible to accurately determine the amount of such damages. In view of these facts, the Contractor agrees to pay the Owner liquidated damages in the sum \$1,000 per calendar day or the amount as modified in any supplemental general conditions, if any, which elapses between the date stated in the Construction Agreement, as extended by any

extensions of time under the provisions of the General Conditions of the Contract, and the date when the entire project is finally accepted within the meaning of the acceptance and Final Payment provision of the General Conditions of the Contract. If the Contractor shall fail to pay such liquidated damages promptly upon demand therefor, the surety on his performance bond shall pay such damages. Also, the Owner may withhold all or any part of such liquidated damages from any payments due the Contractor. No changes in the work shall extend the time for completion unless set forth on a properly approved change order.

GC 52. ACCEPTANCE AND FINAL PAYMENT

52.1 Within a reasonable time after final completion of the work and before final acceptance thereof, a final inspection shall be made by the Architect accompanied by the Owner to determine whether the work has been completed in accordance with the Contract Documents. A written Report of Inspection and detailed "punch list," certified as to contents and date of inspection, shall be completed by the Owner and the Architect and delivered or mailed to the Contractor.

52.2 All prior Requests for Payment shall be subject to correction in the final Request for Payment. When all work, including the punch list, has been certified by the Architect as finally and satisfactorily completed, and approved by the authorized representative of the Owner, it shall be deemed accepted as of the date of the issuance of the Owner's Letter of Acceptance.

52.3 Upon submission of the final Request for Payment, the time of final settlement for the work shall be established and shall, thereafter, be advertised by two (2) publications of notice, the last of which shall appear at least ten (10) days prior to the time of final settlement. Final payment and settlement shall be made at the time of final settlement as advertised, or as soon thereafter as appropriate and practicable, in the judgment of the Owner, after resolution of claims and set-offs.

52.4 Neither the final payment nor any part of any sums withheld shall become due until the Contractor delivers to the Owner verified documentation showing full payment for all labor, materials, supplies, and equipment expended upon or incorporated in the work under the Contractor's Contract with the Owner. If any unpaid claim for such labor, materials, supplies, or equipment is filed with the Owner before payment in full of all sums due the Contractor, the Owner shall withhold from the final payment sufficient funds, if available, to provide for the payment of such claim, until the same shall have been paid or withdrawn. Such payment or withdrawal shall be evidenced by filing with the Owner a receipt in full or an order authorizing withdrawal signed by the claimant or their duly authorized agent or assignee. Such funds shall ordinarily not be withheld longer than ninety (90) days following the date fixed for final settlement with the Contractor, as set forth in the published Notice of Contractor's Settlement, unless an action has been commenced within that time to enforce such unpaid claim and a Notice of Lis Pendens has been filed with the Owner.

52.5 If any claim for such labor, materials, supplies, or equipment remains unsatisfied after all payments are made by the Owner to the Contractor, the Contractor shall refund to the Owner all sums which the latter may for any reason be compelled to pay to satisfy such claim, including all costs and attorneys' fees incurred by the Owner as a result of the Contractor's default in such respect.

52.6 The making and acceptance of the final payment shall not constitute a waiver of any claims by the Owner, including, among other things, those arising from unpaid claims, from faulty work which appears before or after final payment, or from any failure to comply with any requirements of the Contract Documents.

52.7 The Contractor, at the conclusion of the work and before final payment is made, shall furnish a listing, giving names, addresses, and telephone numbers of all subcontractors and material suppliers who furnished labor or materials on the project with identification of the services rendered or materials provided.

52.8 The Contractor, at the conclusion of the work and before final payment is made, shall furnish to the District a list itemizing all kitchen equipment with associated cost that was installed in the Project.

GC 53. WARRANTIES ON PORTIONS OF THE WORK

53.1 The Contractor shall, in case of work performed or materials or equipment provided for which warranties are required by the Contract Documents, secure the required warranties and deliver copies thereof to the Architect and the Owner upon completion of the work. All such warranties shall commence from the date set forth in the Letter of Acceptance and will not in any way reduce the Contractor's responsibilities under his Contract. Whenever guarantees or warranties are required by the specifications for a longer period than one year, such longer period shall govern.

GC 54. CONTRACTOR'S PROJECT GUARANTEE AFTER COMPLETION

54.1 The Contractor expressly warrants and guarantees that the project will be constructed in a first-class, workmanlike manner; that it will be safe, free from structural and workmanship defects and defects in materials; and that the improvements will be suitable and fit for occupancy and for the purpose for which they were intended.

54.2 Neither the Architect's approval of the final Request for Payment nor payment of any Request for Payment or of any sum previously withheld from the Contractor shall relieve the Contractor of responsibility for the warranty and guarantee hereunder or for faulty materials or workmanship, and, unless otherwise agreed, they unconditionally agrees to remedy any defects due thereto, and pay for any damages resulting therefrom, which shall appear within a period of one (1) years from the date set forth in the Letter of Acceptance of his work.

54.3 The Owner, the Architect, and the Contractor together shall make one (1) complete inspection of the work after the work has been accepted by the Architect and the Owner. The inspection shall be made approximately eleven (11) months after the final acceptance of the work. The Architect shall make a written report of the inspection, certified as to contents and date of inspection, and forward the report by mail to the Owner and the Contractor within seven (7) days after completion of the inspection. The Contractor shall immediately initiate such remedial work as may be necessary to correct any deficiencies or defective work shown by this report, and shall complete all such remedial work within 30 calendar days in a manner acceptable to the Owner.

54.4 If the Contractor fails to promptly correct all deficiencies and defects shown by the report, the Owner may do so, after giving the Contractor ten (10) days' written notice of

intention to do so. The Owner shall be entitled to collect from the Contractor all costs and expenses incurred in correcting such deficiencies and defects, as well as all damages resulting from such deficiencies and defects. The guarantee and warranties of the Contractor provided for herein are in addition to and not in lieu of any other remedies available to the Owner.

GC 55. LIMITATION OF ACTIONS AND VENUE

55.1 Any actions against the Contractor, his subcontractors, suppliers, or others providing materials or services for the project, brought to recover damages for injury to person, damage to property, including loss or damage to the property or the project itself, or defects in materials caused by the design, manufacture, supplying, planning, supervision, inspection, construction, or observation of construction of the project shall be brought within six (6) years after such claim for relief arises and the nature and extent are fully discovered.

55.2 In no case shall such an action be brought more than ten (10) years after the final completion and acceptance of the project; provided, however, that in any case where the cause of action arises during the tenth year, such action shall be brought within six (6) years after such cause of action arises and the nature and extent are fully discovered by the Owner.

55.3 All claims and disputes arising out of and relating to this Agreement shall be resolved by litigation. Venue shall lie exclusively in the Jefferson County District Court, State of Colorado.

GC 56. SOIL TEST REPORT

56.1 The Owner may arrange for a separate consultant to conduct field and laboratory soil investigations on the site and to prepare a report of the findings. Such reports, if accomplished, will be available for review by the Contractor in the Architect's office. Such data is offered solely for reference and is not to be considered a part of the Contract Documents. The data contained in any such document prepared for the Owner by a separate consultant is believed to be reliable; however, the Owner and Architect do not guarantee its accuracy or completeness. All applicable subcontractors shall be fully familiar with the contents of such reports, if prepared, and shall consider and evaluate them in the performance of their contracts.

GC 57. EXPEDITING MATERIALS

57.1 Each Contractor shall, immediately after receipt of Notice of Contract Award and approval of his list of subcontractors and material suppliers, place orders for all equipment, materials, and supplies required for the work. He shall, when requested, submit to the Architect evidence that such orders have been placed. The Contractor shall exercise due diligence in seeing that all equipment, materials, and supplies are delivered well in advance of the time they are needed on the job; and they shall properly store and protect same at their expense and in accordance with these General Conditions, either at the site or elsewhere as approved by the Architect.

GC 58. MISCELLANEOUS KEYS, SWITCHES, ETC.

58.1 Except as otherwise specifically required by the Project Technical Specifications at the completion of the project, all loose keys for hose bibs, adjustment keys and wrenches for door closers and panic hardware, keys for electric switches, electrical panels, and all other equipment shall be identified and accounted for and turned over to the Architect for transmittal to the Owner.

GC 59. PREFERENCE FOR COLORADO LABOR, MATERIALS, AND RESIDENT BIDDERS

59.1 In compliance with Colorado Revised Statutes Sections 8-17-101 and -102 (1973), preference shall be given to Colorado labor in the several classifications of skilled and common labor, and not less than eighty percent (80%) of each type or class of labor in the several classifications of skilled and common labor employed shall be Colorado labor. The term "Colorado labor" means any person who is a resident of the State of Colorado at the time of employment, without discrimination as to race, creed, color, sex, age, religion, national origin, or disability, except when age or sex is a bona fide occupational qualification.

59.2 In compliance with Colorado Revised Statutes Section 8-18-101 (1973), if any of the work includes a contract for commodities and services, preference shall be given to a resident bidder (as defined in GC 59 below) against a nonresident bidder equal to the preference given or required by the state in which the nonresident bidder is a resident.

59.3 In compliance with Colorado Revised Statutes, Sections 8-19-101 and -102 (1985), preference shall be given to resident bidders against nonresident bidders from a state or foreign country equal to the preference given or required by the state or foreign country in which the nonresident bidder is a resident. The term "resident bidder" means a person, partnership, corporation, or joint venture which is (a) authorized to transact business in Colorado and which maintains its principal place of business in Colorado; or (b) authorized to transact business in Colorado, which maintains a place of business in Colorado, and which has paid Colorado unemployment compensation taxes in at least seventy-five percent (75%) of the eight (8) quarters immediately prior to bidding on the work.

GC 60. LABOR DISPUTES

60.1 Notwithstanding any other provision contained elsewhere herein and superseding any contrary term expressed herein, the Contractor agrees that in the event of any picket or other form of labor dispute at the construction site, whether such dispute or picket is in connection with the Contractor, subcontractor, or any other person or entity on the construction site, the Contractor will continue to perform the work required herein without interruption or delay. In the event the Contractor fails to continue the performance of the work included herein, without interruption or delay, because of such picket or other form of labor dispute, the Owner may terminate the services of the Contractor after giving seventy-two (72) hours' written notice of intent to do so. The terminated Contractor may then be replaced at the discretion of the Owner and all extra costs involved in doing so shall be payable by the terminated Contractor.

60.2 During the performance of the work required by the Contract Documents, the Contractor and his subcontractors and their employees, agents, or suppliers, will use such entrance or entrances to the construction site as may be designated from time to time by the Owner. Further, the Contractor and his subcontractors, their employees and agents, shall perform the work at such times of the day and days of the week as may be designated by the Owner from time to time.

GC 61. LABOR, WORKMANSHIP, AND SCHOOL SECURITY

61.1 All work performed under this contract shall be performed in a professional and skillful like manner. The District may require that the Contractor immediately remove from the construction site any employee the District or on-site school personnel deem to be incompetent, careless, or otherwise objectionable.

61.2 The Contractor shall not utilize, in the performance of this contract, any laborer or employee who has been convicted of a violent crime or a crime of such nature (i.e. child related offenses) as to categorize the person as being unsuitable for working around school children, or has engaged in such conduct, in the last five years, as to be similarly categorized. Suitability shall be determined by performance of security/background checks (as are necessary in light of the potential of contact with school students, staff, property, or sensitive records maintained at school sites) by the Contractor on all laborers and employees utilized in the performance of the work.

61.2.1 When there is reasonable doubt regarding a particular person's suitability, a request may be made through the District for an approval/opinion prior to the individual beginning work. The Contractor shall submit copies of all security/background checks performed within twenty-four (24) hours of a request by the District for such information. The District may request copies of these security/background checks up to twelve (12) months after completion of the specific project (site work). Failure to complete or submit any required security/background check requested by the District, may result in immediate cancellation of work in process and/or removal from the active vendor and bidders list for up to one year.

61.3 The Contractor, its laborers and employees shall not fraternize or otherwise communicate with the students except in cases of safety and like necessities.

61.4 The Contractor shall not allow any laborer or employee to wear objectionable clothing or caps with other than company logo, (objectionable clothing will be determined by the District personnel), or use profanity in any manner while on school property.

61.5 The Contractor shall ensure that its laborers and employees fully comply with all school policies/regulations pertaining to restrictions that may affect anyone on school owned property. Examples of these current policies/regulations are:

61.5.1 Each worker shall participate in the contractors approved identification program.

61.5.2 Maintain professional worker like attire (see GC 61).

61.5.3 Controlled substances (i.e. tobacco, alcohol, illegal drugs, dangerous substances) are not allowed on the school/construction site. (Board Policy)

61.5.4 Possession of any weapon, including a pocketknife, which is not directly used as a tool for the work in progress is not allowed on the school/construction site.

61.5.5 Verification of Criminal Records for all employees who work on site per GC 10.

61.6 Removal of a specific person(s) from a project as a result of any condition mentioned above will not relieve the Contractor from timely performance of work completion and will not be considered grounds for a request for additional funds or time extension to complete the project.

61.7 The contractor shall take over and assume all responsibility for the entire premises, provide and maintain all protection as required by the governing laws, rules, regulations and ordinances. The Contractor shall be responsible for any loss or damage caused by its workers to the property of the District and shall make good any loss, damage, or injury without cost to the owner, subject to the Builder's Rick Coverages.

61.7.1 Except as otherwise provided in the General Conditions, the Contractor shall be solely responsible for the safety of its work, materials, equipment, tools, etc., on the site and shall, if it deems it necessary or expedient, employ at its own expense the services of a competent security service. The District disclaims all responsibilities for the safety of the work, materials, equipment, tools, etc., or for any damage, which may be done to same due to theft, or any other cause until such time as the owner formally accepts the completed work.

61.7.2 The Contractor shall take special precautions against fire and shall comply fully with the requirements of city, county, and insurance authorities including stipulation as outlined below:

61.7.2.1 Combustible refuse shall be removed from the site and disposed of daily in a manner approved by the governing authorities.

61.7.2.2 Private and public streets, sidewalks, roads, etc., shall be protected and maintained during the course of work, and any damage to same shall be repaired by the Contractor at its own expense.

61.7.2.3 Gas line and Boiler work.

61.7.2.4 The Contractor will not do any work on gas lines on or near the building while the building is occupied.

61.7.2.5 No work on the boilers, furnaces, or gas lines will be done without prior notification and approval of the Construction Management department.

61.7.2.6 Boilers and furnaces will not be turned on or off by any Contractor without prior notification and approval of the Construction Management department.

61.7.2.7 When boilers or furnaces are to be turned on or off, the District Maintenance department will be notified and the appropriate personnel will be dispatched to carry out the necessary procedures.

61.7.2.8 The Contractor will be required to accept full responsibility of the keys as issued for access. The contractor will be financially liable for the replacement of lost keys as well as the re-keying of the building to which the keys belong. Contractor agrees to report lost or stolen keys immediately to the District Security office. Keys are NOT TO BE DUPLICATED under any circumstances, and Contractor understands that keys must be surrendered immediately upon request.

61.8 Illegal Aliens. The Contractor shall not knowingly employ or contract with an illegal alien to perform work under this Contract, or enter into a contract with a subcontractor that fails to certify to the Contractor that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under this public contract.

61.8.1 The Contractor has verified or attempted to verify through participation in the United States Citizenship and Immigration Services' Basic Pilot Employment Verification

Program (hereinafter referred to as the “Basic Pilot Program”) that the Contractor does not employ any illegal aliens. If the Contractor has not been accepted into the Basic Pilot Program prior to entering into this Contract, the Contractor shall apply to participate in the Basic Pilot Program every three months until the Contractor is accepted or the Contract for services has been completed, whichever is earlier. The Contractor shall not use the Basic Pilot Program to undertake pre-employment screening of job applicants while the Contract is being performed.

61.8.2 If the Contractor obtains actual knowledge that a subcontractor performing work under this Contract knowingly employs or contracts with an illegal alien, the Contractor shall:

61.8.2.1 Notify the subcontractor and the Owner within three days that the Contractor has actual knowledge that the subcontractor is employing or contracting with an illegal alien; and

61.8.2.2 Terminate the subcontract if within three days of receiving actual notice the subcontractor does not stop employing or contracting with the illegal alien, except that the Contractor shall not terminate the subcontract if during such three days the subcontractor provides information to establish that the subcontractor has not knowingly employed or contracted with an illegal alien.

61.8.3 The Contractor shall comply with any reasonable request by the Department of Labor and Employment (hereinafter referred to as the “Department”) made in the course of an investigation that the Department is undertaking pursuant to C.R.S. § 8-17.5-102(5).

61.8.4 If the Contractor violates the provisions of this section GC 61, the Owner may terminate the contract for breach and the Contractor shall be liable for actual and consequential damages.

GC 62. END OF GENERAL CONDITIONS

JEFFERSON COUNTY PUBLIC SCHOOLS

809 Quail Street, Building #4 / Lakewood, Colorado 80215 / (303) 982-2584

Department of Construction Management

ASBESTOS SIGN OFF SHEET

Date: _____

Location: _____ **Address:** _____

Project Description: _____

Project I D: _____

Project Manager: _____

(Prime Contractor / Vendor)

I have been informed that asbestos containing materials have been identified as present in this facility and the AHERA Management Plan for this school has been made available to me.

I am aware that it is my responsibility to inform my employees and any and all subcontractors and their employees of the presence of asbestos and the availability of the Management Plan.

Any incident involving the disturbance of asbestos containing materials and any questions will be reported to the Environmental Services Department at (303) 982-2350.

Prime Contractor / Vendor: _____

(Address)

Signature: _____

(Prime Contractor / Vendor)

Jefferson County School District No. R-1

Department of Planning & Construction

809 Quail Street, Building #4 / Lakewood, Colorado 80215

APPLICATION FOR PAYMENT OF CM/GC

Payment No.:

Date: _____

For District use only:	
Current T.E. to Date	<input type="text"/>
Previous T.E. to Date	<input type="text"/>
Current Total Ret.	<input type="text"/>
Previous total Ret.	<input type="text"/>
Earned This Period	<input type="text"/>
Retainage This Period	<input type="text"/>
Check Amount	<input type="text"/>

CM/GC: _____

Address: _____

PO #: _____

Project ID #: _____

Location: _____

Type of Service: _____

Billing Period: _____ to _____

1. Total Contract To Date With Adjustments..... \$ _____
2. Total Fees Earned To Date \$ _____
3. Total Cost Of Work Earned To Date \$ _____
 - a. _____ % Less Contract Retainage.....(\$ _____)
 - b. Less Other Amounts Retained.....(\$ _____)
4. Total Earned Less Retained..... \$ _____ 0.00
5. Less Total Previous Payments..... (\$ _____)
6. Amount DUE THIS PAYMENT..... \$ _____ 0.00

CM/GC's Certificate

I certify that all items and amounts on the attached estimate and schedules are correct; that the work for which payment is claimed has been performed and materials supplied in full compliance with the requirements of the Contract Documents and approved changes; and that all amounts have been paid for the work and materials for which previous Applications for Payment were issued and payments received from the School District.

CM/GC's Name : _____ Signature

Title : _____ **Date :** _____

Consultant's Certificate

I certify that the work for which payment is claimed has been reviewed by me based upon site observations and the information provided with this Application for Payment; that to the best of my knowledge, information and belief the progress of the work is accurately stated, the work has been performed in compliance with the requirements of the Contract Documents and the Contractor is now entitled to payment in the amount he has certified.

Consultant's Name: _____ Signature

Consultant's Firm : _____ **Date:** _____

For District use only: FUNDING

PO:	<input type="text"/>
Retainage:	<input type="text"/>
Voucher No.	<input type="text"/>

Project Manager : _____

Signature _____ Date _____

Executive Director: _____

Signature _____ Date _____

C.O.O. (≥\$100k): _____

Signature _____ Date _____

Criminal Records Check Certification

I, _____, certify that:

Name of Contractor

1. I have carefully read and understand the General Conditions of the Contract, Article 10.4, regarding the Criminal Records Check required by Jefferson County School District, R-1.
2. Due to the nature of the work I will be performing for the District, my employees May have contact with the students in the District.
3. None of the employees who will be performing the work have been convicted of a violent or serious felony as defined in the General Conditions of the Contract, Articles 10.4 and 61.2. This determination was made by a background check through the Department of Justice or the Colorado Bureau of Investigation.
<https://www.cbirecordscheck.com/Index.asp>

I declare under penalty of perjury that the foregoing is true and correct.

Executed at _____, Colorado, on _____
Date

Signature _____

Typed or Printed Name _____

Title _____

Address _____



Building Bright Futures

Stormwater Management Program

Contractor Illicit Discharge Reporting Form

Illicit discharges to storm systems must be reported by calling Jeffco Public Schools Environmental Services as soon as possible upon discovery (the same day). This form must be completed and submitted within 48 hours of discovery of an illicit discharge. Use the information in this form to collect the appropriate information for reporting discharges by phone. Illicit discharges are any release of water or other materials to a stormwater sewer or other stormwater conveyance system, including releases to bodies of surface water, canals, irrigation ditches, etc.. For the purposes of Jeffco release reporting, also report measurable deposition or transport of muddy water or soils from the project site activities onto roadways or areas beyond the project site boundaries. Document and immediately rectify causes of any incidences of soil tracking from the project site, but it is not necessary to call-in reports for minor tracking, if rectified. Contain and/or appropriately divert (via approved method of disposal/deposition) all operational wastewater generated (Example: When using water hoses or power washers, prevent release of waste water to stormwater systems).

Report **DANGEROUS** conditions **IMMEDIATELY**.

REPORT ILLICIT DISCHARGES BY PHONE:

- ◆ During Work Hours call Environmental Services @ (303) 982-2349 or contact the Project Manager @ (303)982-2584.
- ◆ After Hours, or if you can not reach Environmental Services call Security at (303) 232-8688.
- ◆ Fire Department – 911 (for discharges of flammable materials into sewers or streams). Also notify Environmental Services.

Provide completed form by email to khenry@jeffco.k12.co.us or hard copy to Jeffco Environmental Services, 809 Quail St., Building 4, Lakewood, Colorado 80215.

School or complex name: _____

Location municipality/city _____

Name of person reporting the discharge:

Print Name _____

Signature _____

Telephone/cell _____

Contractor Information

- a. Firm Name
- b. Address
- c. Representative
- d. Telephone:

Name of Jeffco Project Manager (or building Facility Manager): _____

Please provide as much of the following information as possible.

1) Date & time illicit discharge occurred and/or was discovered: _____

3) Location of inlet(s) where discharge occurred. _____

4) Type of illicit discharge entering inlet: _____

5) Estimated amount of materials discharged: _____

6) How long has discharge been occurring? _____

7) Possible source of illicit discharge: _____

8) Actions taken to stop/limit illicit discharge: _____

9) Location of nearest outfall/outlet and receiving body of water if known: _____

10) Did discharged materials reach an outfall? _____ Estimate how much:

11) Did discharged materials leave Jeffco Schools property? _____

12) What is the status of the discharge now and what pollutant containment efforts were implemented?

13) Date and time of call to report discharge: _____

14) Department and/person to whom illicit discharge was reported: _____

15) Were other agencies contacted (municipality, state, fire department)? If so, provide date and time of call and the name and contact number of agency: _____

Additional information (optional):

For questions regarding wastewater management and hazardous materials disposal contact the director of Jeffco Environmental Services (303) 982-2350. Thank you!

JEFFERSON COUNTY SCHOOL DISTRICT No. R-1

809 Quail Street, Building #4 / Lakewood, Colorado 80215

Department of Planning & Construction

JOB SITE INFORMATION SHEET

LOCATION: _____ _____ _____	PROJ. DESCRIPTION: _____ _____ PROJECT NUMBER: _____ START DATE: _____ COMPLETION DATE: _____
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SCHOOL PRINCIPAL: _____	SCHOOL PHONE No.: _____ PRINCIPAL E-MAIL: _____ FM PHONE No: _____ FM PAGER No: _____ FM E-MAIL: _____
FACILITY MANAGER: _____	

JEFFCO PROJECT MANAGER: _____	WORK PHONE: _____ CELL No.: _____ MAIN No.: 303-982-2584 E-MAIL: _____
--------------------------------------	--

PRIME CONTRACTOR: _____ _____ _____	PHONE No.: _____ FAX: _____
PROJ. MANAGER: _____	PHONE No.: _____ CELL No: _____ E-MAIL: _____
SUPERINTENDENT: _____	PHONE No.: _____ CELL No: _____ JOB SITE FAX: _____ E-MAIL: _____

PRIME CONSULTANT _____ _____ _____	PHONE No.: _____ FAX: _____
CONSULTANT: _____	PHONE No.: _____ E-MAIL: _____

JEFFCO SECURITY: 303-982-2445 or 303-232-8688

Project File A.04

DATE: 01/00/00

LOCATION: 0

Summary of Meeting	Responsibility	Due Date	Last Modified
--------------------	----------------	----------	---------------

All meeting minutes items are considered correct and accurate unless the author is notified in writing within 10 days

AUTHOR: _____

Prepared by

NOTICE TO PROCEED CHECKLIST

LOCATION: _____

PROJECT I D #: _____

Document Checklist Required for Notice to Proceed

Transmitted

- | | |
|---|--------------|
| <p>1. Construction Agreement Executed</p> | <p>_____</p> |
| <p>2. Performance Bond (District Form) (1 required)</p> | <p>_____</p> |
| <p>3. Labor and Material Bond (District Form) (1 required)</p> | <p>_____</p> |
| <p>4. Insurance Certificates; Workers Comp., Liability, Auto
(District to be listed as "Additional Insured" or listed as "Certificate Holder")</p> | <p>_____</p> |
| <p>5. Preliminary Construction Schedule</p> | <p>_____</p> |
| <p>6. Request for Approval of Subcontractors / Vendors (District Form)
(1 required) (Remember to Sign)</p> | <p>_____</p> |
| <p>7. Schedule of Values For Contractor Payments Detailed Estimate
AIA G703 (1 required) (Remember to sign)</p> | <p>_____</p> |
| <p>8. Asbestos Sign Off Sheet (District Form) (Remember to Sign)</p> | <p>_____</p> |
| <p>9. Job Site Information Sheet (District Form)</p> | <p>_____</p> |
| <p>10. Criminal Records Check Certification (District Form)</p> | <p>_____</p> |
| <p>11. Contractor Illicit Discharge Reporting Form (District Form)</p> | <p>_____</p> |

District Project Manager Sign-Off: _____

Signature

Date All Documents Received: _____

JEFFERSON COUNTY SCHOOL DISTRICT NO. R-1

809 Quail Street, Building #4 / Lakewood, Colorado 80215

Department of Facilities Planning & Design and Construction Management

REQUEST FOR APPROVAL OF SUBCONTRACTORS / VENDORS

PROJECT I D #: _____

TO: BOARD OF EDUCATION
JEFFERSON COUNTY SCHOOL DISTRICT No. R-1

DATE: _____

FROM: _____

LOCATION: _____

PROJECT DISCRIPTION: _____

APPROVAL

SUBMITTED BY: _____
Signature of Contractor Date

RECOMMENDED BY: _____
Signature of Architect / Consultant / Engineer Date

VERIFIED BY: _____
Signature of P M Jefferson County Schools Date

Subcontractors / Vendors Total Value: \$0.00

In accordance with requirements of the Contract Documents, approval is requested for use of the following subcontractors / vendors for work performed or equipment / materials supplied under this contract:

NAME AND ADDRESS	IDENTIFY TYPE OF WORK - EQUIPMENT - MATERIAL		CONTRACT AMOUNT
	Spec. Section No.	Description	
Name: Address: Contact: Phone: Fax: E-Mail			
Name: Address: Contact: Phone: Fax: E-Mail			
Name: Address: Contact: Phone: Fax: E-Mail			
Name: Address: Contact: Phone: Fax: E-Mail			
Name: Address: Contact: Phone: Fax: E-Mail			

NAME AND ADDRESS	IDENTIFY TYPE OF WORK - EQUIPMENT - MATERIAL		CONTRACT AMOUNT
	Spec. Section No.	Description	
Name: Address: Contact: Phone: Fax: E-Mail			
Name: Address: Contact: Phone: Fax: E-Mail			
Name: Address: Contact: Phone: Fax: E-Mail			
Name: Address: Contact: Phone: Fax: E-Mail			
Name: Address: Contact: Phone: Fax: E-Mail			
Name: Address: Contact: Phone: Fax: E-Mail			
Name: Address: Contact: Phone: Fax: E-Mail			
Name: Address: Contact: Phone: Fax: E-Mail			
Name: Address: Contact: Phone: Fax: E-Mail			

JEFFERSON COUNTY SCHOOL DISTRICT NO. R-1

809 Quail Street, Building #4 / Lakewood, Colorado 80215

Departments of Facilities Planning & Design and Construction Management

SCHEDULE OF VALUES FOR CONTRACT PAYMENTS DETAILED ESTIMATE

PAGE: 1 of

CONTRACTOR: _____

DATE: _____

ADDRESS: _____

LOCATION: _____

PROJECT I D #: _____

PROJECT
DESCRIPTION:

TOTAL CONTRACT SCHEDULE OF VALUES :

The following page or pages contain quantities and costs that are true and correct, to be used for determining partial payments on account of contract work performed and for consideration and comparison of cost, but not for sole determination of cost for extra or ommitted work authorized.

SUBMITTED BY: _____ TITLE: _____ DATE: _____

Signature of Contractor

RECOMMENDED BY: _____

Signature of Architect / Consultant

Date

VERIFIED BY: _____

Signature PM, Jefferson County Schools

Date

SUBSTITUTION REQUEST

Substitution Request # : _____

Date: _____

TO: _____
Architect / Consultant

Location: _____

Project I D #: _____

FROM: _____
Contractor / Vendor

Project Description: _____

The above listed Contractor / Vendor here by requests approval of the following product in accordance with Section GC 36.00 of the General Conditions of the contract.

Material Or Product
Specified Material or Product: _____
Manufacture: _____
Model #: _____
Specification Section: _____
Substituted Material or Product: _____
Manufacture: _____
Model #: _____

Reason for Substitution:

- A) Specified Product is no longer available: C) The Owner will receive a Savings of: _____
- B) Substitution will improve lead time by: _____ Days D) The Quality of the Material or Product will be Improved:

Give Details:

Contractor's or Vendor's Comments on Substitution:

Contractor / Vendor _____
Signature

Architect / Consultant Recommendations:

Architect / Consultant _____
Signature

Owner Approval Date: _____

Owner Rejection Date: _____

School District's Project Manager _____
Signature

SUMPLEMENTARY INSTRUCTIONS TO BIDDERS

In addition to the requirements set forth in these specifications, the Owner desires to have the Projects completed on the following time line:

O'Connell Middle School

Work at the school may not commence until June 3, 2013

Construction Completed August 9, 2013

END OF SECTION

SECTION 00 70 00

CONTRACTOR WARRANTIES

1.1 GENERAL

- A. Furnish Owner with written warranty for period of one (1) year from date of Notice of Final Completion that all work is in accord with the Contract Documents and without defects in labor or materials. If repairs or changes are required in connection with the warranted Work within the warranty period, the Contractor shall, promptly upon receipt of notice from the Owner and without expense to the Owner, comply with the following:
 - 1. Place in satisfactory condition in every particular, all of such warranted Work and correct all defects therein.
 - 2. Make good all damage to the building or site, which is the result of the condition needing said repairs and changes.
 - 3. Make good any Work disturbed or new work created in fulfilling any such warranty.
- B. If repairs are required in connection with warranted Work within warranty period and notice thereof is given within such period, the warranty shall continue as to Work requiring repair until the repairs required are completed, and the termination of the warranty period shall not apply thereto.
- C. Corrections of defects, imperfections, and faults shall not relieve the Contractor from his responsibility for additional corrective work during the remaining time period of the warranty.
- D. No provision in the Contract Documents nor any special or general warranty shall be held to limit, as to time or scope of liability, the Contractor's liability for defects, or the liability of his sureties, to less than the legal limit of liability under laws having jurisdiction.
- E. The Contractor will not be held responsible for defects due to misuse, negligence, willful damage, improper maintenance, or accident caused by others.
- F. The delivery of any warranties shall not relieve the Contractor from any obligation assumed under any other provision of the Contract Documents.
- G. The obligations of the Contractor under this Section shall survive termination of the Contract.

1.2 FORM OF WARRANTIES

- A. Warranties shall be in the form set forth below, shall be typed on the Contractor's own letterhead, and shall be submitted by the Contractor to the Owner prior to final payment.

WARRANTY FOR

BUILDING ENVELOPE REPAIR PROJECT AT

O'CONNELL MIDDLE SCHOOL

We hereby warrant the materials and workmanship of the Work which we have installed at the above-named Projects have been provided in accordance with the Contract Documents and that the Work as installed will fulfill the requirements of the warranties included in the Project Manual. We agree to repair or replace any or all of our Work that may prove to be defective in its workmanship or materials within a period of one (1) year from date of acceptance of the above-named Work, without any expense to the Owner, unusual abuse or neglect excepted.

In the event of our failure to comply with the foregoing conditions, within three (3) days after being notified in writing by the Owner, we collectively or separately do hereby authorize the Owner or his successor in interest to proceed to have said defects repaired and made good at our expense, and we will honor and pay the costs and charges therefore upon demand.

Date of final completion of above-named Work:

Signature:

(Contractor)

Typed name and title of Company official signing above and issuing this Warranty:

Name: _____

Title:

Date of Signature:

END OF SECTION

SECTION 01 11 00

SUMMARY OF WORK

PART 1 GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

- A. The intent of this Section is to generally summarize the nature and extent of work to be performed without in any way limiting the specific requirements of the Contract Documents. The Contractor shall provide all labor, plant, supplies, equipment, services, facilities, and appurtenances which are indicated or reasonably implied by the Drawings, or as specified, or that are required for the work described in the Contract Documents.

PART 2 BASE BID

2.1 O'CONNELL MIDDLE SCHOOL

- A. This contract provides for the following scope of work:
1. Exterior repairs shall consist of the following:
 - a. Media blast exterior masonry and repoint as necessary to install elastomeric coating
 - b. Replace all exterior sealants
 - c. Repair spalled masonry units
 - d. Reinforce entry roof gutter structure, repair exterior finishes, and replace gutter sheathing and roof membrane
 - e. Grind and repoint deteriorated mortar joints where embedded steel reinforcing is visible on exterior masonry
 - f. Install new through-wall flashing below masonry coping
 - g. Install wet seal at curtain wall area
 - h. Replace damaged exterior aluminum glass stop
 - i. Installation of new vertical expansion joints in the masonry
 2. Roof repairs shall consist of the following:
 - a. Remove existing and install new 90-mil EPDM roofing on roof Sections O and N
 - b. Repair EPDM membrane at parapet wall/roof locations as shown on Drawings
 - c. Replace damaged sheet metal cap at parapet wall location as shown on Drawings

END OF SECTION

SECTION 01 29 00

PAYMENT PROCEDURES

- 1.1 THE CONTRACTOR SHALL BE PAID IN ACCORDANCE WITH THE GENERAL CONDITIONS OF THE CONTRACT.**

END OF SECTION

SECTION 01 31 19

PROJECT MEETINGS

1.1 PRECONSTRUCTION CONFERENCE

- A. Prior to the start of work, the Contractor will attend a preconstruction conference. This meeting will be chaired by the Owner. The contractor shall be represented by his authorized project supervisory personnel, including the project foreman and superintendent. Meeting shall be attended by representatives of Owner, engineer, and others as may be deemed appropriate. Participants should be prepared to discuss timing, procedures for smooth job progress, items requiring clarification, distribution of documents and correspondence.

1.2 TECHNICAL ANALYSIS MEETINGS:

- A. Weekly jobsite meetings will be held on site for the duration of the project. Meetings of a technical nature will be held on an as-needed basis to resolve any special technical problems that may arise during the performance of the Work. Contractor shall furnish appropriate representation at all meetings. The proceedings of these meetings will be recorded and maintained by the contractor, and minutes will be submitted to all parties for review within 48 hours of the meeting.

END OF SECTION

SECTION 01 41 00

REGULATORY REQUIREMENTS

1.1 RULES, REGULATIONS AND CODES

- A. All work and materials shall be in full accord with the latest rules and regulations of federal, state, and local agencies and all other applicable federal, state and/or local codes, laws and ordinances. References in the Specifications to "code" or to "building code" not otherwise identified, shall mean the International Building Code, 2006 Edition, together with additions, changes, amendments, and interpretations adopted by the enforcing agency (Colorado Department of Safety) and in effect on the date of receipt of bids. Nothing in the Drawings or these Specifications is to be construed as requiring or permitting work that is contrary to these rules, regulations, and codes.

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

1.1 TEMPORARY CONSTRUCTION UTILITIES

- A. The Owner will provide and pay for necessary electrical power and water used on site during the course of construction. Power consumption shall not disrupt Owner's need for continuous service. The Contractor shall be responsible for providing temporary facilities required to deliver such utility services from their existing location on the site to point of intended use. Extension cords, etc., must use a minimum 12 gauge wire with ground. Contractor shall verify characteristics of power available. Where power is not currently available or where power of different voltage, phase or current is required, Contractor shall be fully responsible for providing such service and shall pay all costs required therefore.

1.2 TEMPORARY FIRE PROTECTION

- A. Portable equipment, extinguishers and general fire protection required by the Contractor shall be furnished by the Contractor. Contractor shall comply with the job-site fire regulations that are issued by the fire protection agency having jurisdiction. Contractor may be subject to periodic fire protection inspections and any deficiency or unsafe condition shall be corrected by the Contractor to the satisfaction of the Owner.

1.3 FIRE EXTINGUISHER

- A. Except as otherwise indicated or required, comply with the applicable recommendations of NFPA No. 10 "Portable Fire Extinguisher" for each area of each construction activity whenever combustible materials, flammable liquids, and similar exposures to possible fires are present.

Locate extinguisher where most convenient and effective for the intended purposes. Store combustible materials in recognized fire-safe locations and containers.

1.4 TEMPORARY TELEPHONE SERVICE

- A. The Contractor shall provide, maintain, and pay all costs associated with telephone service.

1.5 SANITARY FACILITIES

- A. The Contractor shall provide, pay for, install and maintain for the duration of the work, necessary toilet and sanitary facilities for workmen. Such facilities shall be kept in a clean and sanitary condition and shall conform to applicable codes and regulations governing such facilities. Sanitary facilities in the buildings shall not be used by the Contractor.

1.6 REMOVAL OF EXISTING MATERIALS

- A. In the removal of roofing, membrane materials, flashings and related roofing materials, no area of removal shall be greater than the area which can have a watertight surface installed during the same working day. The Contractor shall furnish all closures, tents and other means necessary to protect the building from damage from inclement weather.

1.7 PROJECT SIGNS

- A. Project and Contractor signs are not permitted unless approved by Owner.

1.8 SAFETY AND SECURITY

- A. Precaution shall be exercised at all times for the protection of persons (including employees) and property. The safety provisions of applicable laws, building and construction codes shall be observed. Machinery, equipment, and all hazards shall be guarded or eliminated in accord with recommended safety provisions established by the Associated General Contractors of America, to the extent that such provisions are not in contravention of applicable law. The Contractor shall protect hazards with adequately constructed guard rails and/or barricades and shall provide lanterns, warning lights, and the like, as necessary. The Contractor shall eliminate attractive nuisances from the work and from the site. To this end, he shall so dispose, store, guard, and protect the premises and all work, materials, equipment and both permanent and temporary construction as to preclude the unauthorized use thereof by children or others and, particularly, to eliminate possible consequent injury to unauthorized persons.

The Owner or Engineer will not be responsible, under any circumstances, for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the work, nor shall the Owner or Engineer be responsible for Contractor's failure to employ proper safety procedures.

1.9 SCAFFOLDING AND HOISTS

- A. Contractor shall furnish, maintain, and be responsible for hoists, staging, rigging, scaffolding, and runways required in the prosecution of the Work under this Contract. Such temporary work shall be erected, equipped and maintained in accord with statutes, laws, ordinances, rules or regulations of the State or other authorities and insurance companies having jurisdiction.

1.10 ACCESS AND CONTRACTOR USE OF PREMISES

- A. Contractor shall have access to the site at staging areas selected and approved by the Owner.

Access to the interior of the building by the Contractor or subcontractor, including material suppliers and employees, is expressly prohibited, except as specifically authorized, scheduled and supervised by the owner on a daily basis.

Work hours are limited to those stipulated by the local jurisdiction. Generally, 7:00 A.M. to 5:00 P.M. Monday through Friday, excluding legal holidays. Additional work hours or time may be arranged if approved by the Owner.

Control work activities and sequences to accommodate Owner use of property.

1.11 MAINTENANCE OF EXITWAYS

- A. Contractor shall provide safe access to building at all times. Maintain all exitways clear and free of debris or obstructions at all times.

1.12 CONSTRUCTION DUST AND NOISE

- A. Contractor shall note that the building will remain in continuous operation and use during the entire construction period. He shall take all reasonable precautions to eliminate dust and unsightly conditions, to minimize noise related to construction operations, and to minimize disruption and inconvenience to users of the building.

1.13 ASPHALT FUMES

- A. Contractor shall equip all kettles used on site with a fume recovery system. All asphalt fumes at ground level must be kept to minimum.

1.14 PROTECTION OF BUILDING AND GROUNDS

- A. All building surfaces interior and exterior, walkways, curbs and paving, landscaping, trees, shrubs and other plantings within project area and adjacent thereto shall be protected from damage due to construction operations. Damaged items shall be restored or replaced to Owner's satisfaction.

1.15 MATERIAL STORAGE

- A. Contractor shall store materials in a defined, secured area on site. Storage area shall be coordinated with the owner.

1.16 EXISTING DRAINAGE AND UTILITY LINES

- A. The Contractor shall maintain in operation, at his expense, for the duration of Contract, all drainage and utility lines within working areas. All connections to or modifications of utility lines shall be made and maintained in such manner as to not interfere with the continuing use of same by the Owner or others during the entire progress of the Work. Contractor shall verify that all drains in or adjacent to work areas are open and flowing freely prior to the start of the work (including stocking the job). Any plugged drains and damage caused by them will be the sole responsibility of the Contractor.
- B. Conduit lines are attached directly underneath the metal roof deck. The density and location of these conduits cannot be accurately determined. The Contractor will take precautions to minimize the potential damage to conduit.
- C. Damage to conduit and electrical lines caused by the roofing installation shall be repaired by the Contractor at their cost. A licensed electrician shall be used for all electrical repairs. Damaged items shall be restored or replaced to the Owner's satisfaction.

1.17 ROOFING CONSTRUCTION CONTROLS

- A. All staging and setup areas shall be enclosed with 6 foot high chain link fencing.
- B. Workmen shall wear a shirt at all times.
- C. Workmen shall refrain from using rude comments or whistles at passersby.
- D. Building permit shall be posted.
- E. There shall be a full height tarp on building at all staging areas.

- F. All debris shall be removed via a full height tear-off chute (no debris shall be thrown over side of building).
- G. A spotter shall be used whenever a vehicle is moved on the property.

1.18 CLEANUP DURING CONSTRUCTION

- A. In accordance with the General Conditions, as may be specified in individual Specification Sections, and as required herein.
- B. Provide approved containers for collection and disposal of waste materials, debris, and rubbish. When containers are full, dispose of such waste materials, debris, and rubbish offsite.
- C. At least weekly, brush-sweep the entry drive and roadways, and all other streets and walkways affected by Work.
- D. Use of Owner's waste disposal containers is not allowed.

END OF SECTION

SECTION 01 74 00

CLEANING UP

1.1 GENERAL

- A. The Contractor shall, at all times during the course of this Contract, keep the building, the Owner's premises, and the adjoining premises, including streets and other areas assigned to, or used by, the Contractor, free from accumulations of waste materials and rubbish caused by his employees or Work, or by the employees or Work of his Subcontractors. All waste materials and debris shall be legally and safely disposed of off the Owner's property.

1.2 CLEANING MATERIALS

- A. The Contractor shall be fully responsible for any damage to any surface or substrate caused by the improper use of cleaning techniques or materials.

1.3 EXECUTION

- A. Final Cleaning: At completion of the Work, and prior thereto if so required by job-site conditions, remove from the premises, tools, appliances, surplus materials, debris, and temporary construction. Remove marks, stains and soil from building surfaces when such have resulted from work under this Contract.
- B. If the Contractor, upon request by the Owner, does not attend to cleaning with reasonable promptness, the Owner may cause such cleaning to be done by others and charge the cost of same to the Contractor or deduct the said cost from payments still due the Contractor under the Contract.

END OF SECTION

SECTION 02 41 00

SELECTIVE DEMOLITION AND REMOVAL

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION

- A. Procedures shall provide for careful removal and disposition of materials specified to be salvaged, coordination with other work in progress, and a disconnection schedule of utility services (if necessary). The work includes demolition and removal of all construction indicated or specified. Remove rubbish and debris from the work site roof daily unless otherwise directed; do not allow accumulations outside the building. Store material that cannot be removed daily in areas specified by the Owner.

1.3 DUST CONTROL

- A. Take appropriate action to check the spread of dust to occupied portions of the building and to avoid the creation of a nuisance in the surrounding area.

1.4 PROTECTION

- A. Existing Work: Protect existing work that is to remain in place, that is to be reused, or that is to remain the property of the Owner by temporary covers, shoring, bracing, and supports. Items which are to remain and which are to be salvaged and which are damaged during performance of the work shall be repaired to their original condition or replaced with new, to the satisfaction of the Owner. Do not overload structural elements. Provide new supports and reinforcement for existing construction weakened by demolition or removal work.
- B. Weather Protection: For portions of the roof to remain, protect all materials and equipment from the weather at all times. Where removal of the existing roof is necessary to accomplish work, have materials and workmen ready to provide adequate and approved temporary covering of exposed areas. Temporary coverings shall be attended, as necessary, to insure effectiveness and to prevent displacement.
- C. Facilities: Protect all electrical and mechanical services and utilities. Where removal of existing utilities is necessary, provide approved barricades and temporary covering of exposed areas.
- D. Barricades: Provide 6-foot high chain link fences around all staging areas for demolition that contain dumpsters.

PART 2 EXECUTION

2.1 REMOVAL

- A. Remove roof materials without damaging the substrate.
- B. Utilities and Services
 - 1. Temporarily terminate any utilities necessary (after approval of Engineer and notification of the Owner) in a manner conforming to the nationally recognized code covering the specific utility and satisfactory to the Engineers. Replace in a code conforming manner after work is completed.
 - 2. Provide temporary services or connections for electrical and mechanical utilities.

2.2 DISPOSITION OF MATERIAL

- A. Title to Materials: Except where indicated otherwise or specifically specified otherwise in other sections, all materials and equipment removed and not reused, shall become the property of the Contractor and shall be removed from Owner's property.
- B. Reuse of Materials and Equipment: Carefully remove and store materials and equipment to be reused or relocated to prevent damage, and reinstall as the work progresses.

2.3 CLEANUP

- A. Debris and Rubbish: Remove and transport debris and rubbish in a manner that will prevent spillage on streets or adjacent areas. Clean up spillage from streets and adjacent areas.
- B. Regulations: Comply with Federal, State, and local hauling and disposal regulations.

END OF SECTION

SECTION 04 05 01

MASONRY MORTAR AND GROUT

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes: Supply and preparation of mortar and grout for concrete unit masonry repairs.
- B. Related Sections:
 - 1. Section 04 22 00: Concrete Unit Masonry.
 - 2. Section 09 96 53: Silicone Elastomeric Architectural Coating

1.2 REFERENCES

- A. Definitions:
 - 1. Original Mortar: Mortar used in existing construction.
 - 2. Reinforced Masonry: Masonry containing reinforcing steel in grouted vertical cores.
 - 3. Repointing: Process of raking out mortar joint to specified depth and placing new mortar. Also called tuckpointing.
- A. Reference Standards: Latest edition as of Specification date.
 - 1. ASTM International
 - a. C94/C94M: Standard Specification for Ready-Mixed Concrete.
 - b. C143/C143M: Standard Test Method for Slump of Hydraulic-Cement Concrete.
 - c. C144: Standard Specification for Aggregate for Masonry Mortar.
 - d. C150/C150M: Standard Specification for Portland Cement.
 - e. C207: Standard Specification for Hydrated Lime for Masonry Purposes.
 - f. C270: Standard Specification for Mortar for Unit Masonry.
 - g. C404: Standard Specification for Aggregates for Masonry Grout.
 - h. C476: Standard Specification for Grout for Masonry.
 - 2. The Masonry Society (TMS)/American Concrete Institute (ACI)/Structural Engineering Institute of American Society of Civil Engineers (ASCE).
 - a. TMS 402/ACI 530/ASCE 5: Building Code Requirements for Masonry Structures.

1.3 SUBMITTALS

- A. Product Data: Supplier's literature indicating compliance with specified requirements.
 - 1. Color admixtures: Product name and type, and name of manufacturer
 - 2. Dry, preblended mortar mix: Types and proportions of ingredients.
 - 3. Include Material Safety Data Sheets for information only.
- B. Certificates: Indicating compliance with specified requirements.
 - 1. Portland cement: Product name and type, and name of manufacturer.
 - 2. Hydrated lime: Product name and type, and name of manufacturer
- C. Test Reports: For aggregates, indicating type, gradation, impurities, and source.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle materials according to manufacturer's recommendations and in such manner as to prevent damage to materials and structure.
- B. Deliver materials to Site in original packages with seals unbroken, labeled with manufacturer's name, product brand name and type, date of manufacture, and lot number.
- C. Keep materials dry and do not allow materials to be exposed to moisture during transportation, storage, handling, and installation. Reject and remove from Site new materials which exhibit evidence of moisture during application, or have been exposed to moisture.
- D. Store materials in original, undamaged containers in clean, dry, protected location on raised platforms with weather-protective coverings, within temperature range required by manufacturer. Protect stored materials from direct sunlight.
 - 1. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- E. Limit stored materials on structures to safe loading capacity of structure at time materials are stored, and to avoid permanent deck deflection.
- F. Conspicuously mark damaged or opened containers or containers with contaminated materials, and remove from Site as soon as possible.
- G. Remove and replace materials that cannot be applied within stated shelf life.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Cementitious Materials:
 - 1. Portland Cement: ASTM C150/C150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
 - 2. Hydrated Lime: ASTM C207, Type S.
 - 3. Do not use masonry cement.
- B. Aggregate:
 - 1. Mortar: ASTM C144: washed aggregate consisting of natural sand or crushed stone.
 - 2. Grout: ASTM C404.
 - 3. Aggregate shall contain no more than 50 parts per million of chloride ions and shall be free of organic contaminants.
- C. Water: Clean and potable; free from deleterious amounts of acids, alkalis, or organic materials.
- D. Admixtures: Do not use admixtures without written approval, unless otherwise specified, including:
 - 1. Calcium chloride or admixtures containing calcium chloride.
 - 2. Air-entraining admixtures or material containing air-entraining admixtures.
 - 3. Antifreeze compounds.

- E. Mortar Pigment: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes. Use only pigments with record of satisfactory performance in masonry mortar.
 - 1. Use 1 of following or approved equal:
 - a. Bayferrox iron oxide pigments manufactured by Lanxess Corporation.
 - b. True Tone Sweet 16 Mortar Colors manufactured by Davis Colors, Inc.
 - c. SGS Mortar Colors manufactured by Solomon Colors, Inc.

2.2 MORTAR AND GROUT MIXES

- A. Mortar: ASTM C270; proportioned by volume as follows:
 - 1. Portland Cement: 1 part.
 - 2. Hydrated Lime:
 - a. Type S: Over 1/4 to 1/2 parts.
 - 3. Aggregate: Not less than 2 1/4 and not more than 3 times sum of volumes of portland cement and hydrated lime.
 - 4. Water: Maximum amount consistent with optimum workability.
 - 5. Color: Match color of mortar to existing adjacent mortar joints, unless specified otherwise.
- B. Dry, Preblended Mortar Mix: Furnish dry mortar ingredients in preblended mix. Measure quantities by weight to ensure accurate proportions and thoroughly blend ingredients before delivering to Site.
- C. Grout: ASTM C476; fine or coarse, based on parameters in Table 1.19.1 in TMS 402/ACI 530/ASCE 5 and Contractor experience.
 - 1. Slump: 8 to 11 inches, measured according to ASTM C143/C143M.

PART 3 EXECUTION

3.1 SITE MIXING

- A. Develop batching and mixing operations so that quality control is assured.
- B. Designate 1 or 2 individuals to batch and mix mortar and grout. Fully instruct these individuals on batching and mixing procedures. No other persons shall batch or mix mortar or grout without prior notification to Architect/Engineer.
- C. Maintain accurate mix proportions. Batch materials by volume with containers of known volume. Do not measure materials by shovels.
 - 1. Incorporate admixtures into mix in manner recommended by manufacturer and approved by Architect/Engineer. Measure with accuracy of +/-3 percent. Add each admixture separately.
- D. Combine and mix materials in appropriate drum-type batch machine mixer to uniform consistency.
 - 1. Mix mortar for 3 to 5 minutes after materials are in mixer.
 - 2. Mix grout for 5 minutes minimum after materials are in mixer.
 - 3. Provide sufficient number of mixers, including reserve mixers, so that mortar and grout placement operations will proceed uninterrupted.

3.2 READY-MIXED GROUT

- A. Measure, batch, mix, and deliver grout according to ASTM C94/C94M, and furnish batch ticket information.
 - 1. Deliver grout to Site and discharge within 90 minutes or before 300 revolutions of mixer drum, whichever comes first, after introduction of mix water. When air temperature is between 85 and 90 degrees F, reduce mixing and delivery time to 75 minutes; when air temperature is above 90 degrees F, reduce mixing and delivery time to 60 minutes. Due to nature of Work, trucks with short loads may be required. Grout that exceeds specified time limit will be rejected.
 - 2. Reject grout that arrives at Site with slump exceeding maximum specified slump.

3.3 REPOINTING MORTAR MIXING

- A. Pre-hydrate mortar:
 - 1. Thoroughly mix ingredients except water.
 - 2. Continue mixing, adding only enough water to produce damp unworkable mix which will retain its form when pressed into ball.
 - 3. Maintain mortar in dampened condition for 1 to 1 1/2 hours.
- B. Add sufficient water to bring mortar to proper consistency; that is, somewhat drier than conventional masonry mortars.

3.4 LIMITATIONS

- A. Mortar, including repointing mortar:
 - 1. If mortar begins to stiffen, it may be retempered.
 - 2. Discard mortar not placed within 2 1/2 hours after initial mixing.
- B. Grout:
 - 1. Discard grout not placed within 1 1/2 hours after water is first added.
 - 2. Do not retemper.

END OF SECTION

SECTION 04 22 00

CONCRETE UNIT MASONRY

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes: Repair of unreinforced and reinforced concrete masonry unit (CMU) wall assemblies including copings
- B. Related Sections:
 - 1. Section 04 05 01 - Masonry Mortar and Grout: Mortar and grout.
 - 2. Section 07 92 00 - Joint Sealants: Joint sealant.

1.2 REFERENCES

- A. Reference Standards: Latest edition as of Specification date.
 - 1. American Concrete Institute (ACI):
 - a. ACI 315: Details and Detailing of Concrete Reinforcement.
 - 2. ASTM International:
 - a. A153/A153M: Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 - b. A580/A580M: Standard Specification for Stainless Steel Wire.
 - c. A615/A615M: Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
 - d. A951/A951M: Standard Specification for Steel Wire for Masonry Joint Reinforcement.
 - e. C90: Standard Specification for Loadbearing Concrete Masonry Units.
 - f. C1019: Standard Test Method for Sampling and Testing Grout.
 - g. D2000: Standard Classification System for Rubber Products in Automotive Applications.
 - h. D2287: Standard Specification for Nonrigid Vinyl Chloride Polymer and Copolymer Molding and Extrusion Compounds.
 - 3. The Masonry Society (TMS)/ACI/Structural Engineering Society of the American Society of Civil Engineers (ASCE):
 - a. TMS 402/ACI 530/ASCE 5: Building Code Requirements for Masonry Structures.

1.3 COORDINATION

- A. Coordinate with installation of plumbing and electrical fixtures, piping, and equipment.

1.4 SUBMITTALS

- A. Product Data: Indicating conformance with specified standards and suitability for intended use.
 - 1. Include Material Safety Data Sheets for information only.
- B. Shop Drawings: Reinforcing steel fabrication details and wall elevations showing bar locations.

- C. Samples: Submit samples of CMU with range of texture [and color] to match existing CMU. Do not begin manufacturing CMU until samples approved by Owner's Representative and Architect/Engineer.
- D. Certificates: Signed by CMU manufacturer, indicating conformance of CMU with ASTM C90.
- E. Contractor Qualifications: Evidence that Contractor's *existing company* has minimum 5 years of continuous experience in similar CMU wall construction; list of at least 5 representative, successfully-completed projects of similar scope and size, including:
 - 1. Project name.
 - 2. Owner's name.
 - 3. Owner's Representative name, address, and telephone number.
 - 4. Description of CMU work.
 - 5. Project supervisor.
 - 6. Total cost of CMU work and total cost of project.
 - 7. Completion date.

1.5 QUALITY ASSURANCE

- A. Contractor Qualifications: Experienced firm that has successful completed CMU work similar in material, design, and extent to that indicated for Project. Must have successful construction with specified materials in local area in use for minimum of 5 years.
 - 1. Employ experienced foreman with minimum 5 years of experience as foreman on similar projects, who is fluent in English, to be on Site at all times during Work. Do not change foremen during course of Project except for reasons beyond control of Contractor; inform Architect/Engineer in advance of any changes.
 - 2. Employ masons with minimum 2 years of experience in CMU construction, except for required apprentices who shall be supervised by experienced masons.
- B. Mockups: Construct 10 feet linear feet for coping repair and one concrete masonry unit for each repair type to demonstrate execution quality. Architect/Engineer will observe mockup construction.
 - 1. If Architect/Engineer determines mockup does not comply with requirements, modify mockup or construct new mockup until mockup is approved.
 - 2. Approved mockup will be standard for judging completed Work.
 - 3. Approved mockup may become part of completed Work if undisturbed at time of Substantial Completion.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle materials according to manufacturer's recommendations and in such manner as to prevent damage to materials and structure.
- B. Deliver materials to Site in original packages with seals unbroken, labeled with manufacturer's name, product brand name and type, date of manufacture, lot number, and directions for storing and mixing with other components.
- C. Keep materials dry and do not allow materials to be exposed to moisture during transportation, storage, handling, and installation. Reject and remove from Site new materials which exhibit evidence of moisture during application, or have been exposed to moisture.

- D. Store materials in original, undamaged containers in clean, dry, protected location on raised platforms with weather-protective coverings, within temperature range required by manufacturer.
- E. Limit stored materials on structures to safe loading capacity of structure at time materials are stored, and to avoid permanent deck deflection.
- F. Conspicuously mark damaged materials and damaged or opened containers or containers with contaminated materials, and remove from Site as soon as possible.
- G. Remove and replace materials that cannot be applied within stated shelf life.

1.7 PROJECT CONDITIONS

- A. Verify existing dimensions and details prior to start of CMU Work. Notify Architect/Engineer of conditions found to be different than those indicated in Contract Documents. Architect/Engineer will review situation and inform Contractor of changes.
- B. Comply with Owner's limitations and restrictions for Site use and accessibility.
- C. Environmental Limitations: Do not allow CMU construction to dry out, become excessively wet, or freeze during construction or curing. Suspend construction during inclement weather or take special precautions.
- D. Handle and install materials in strict accordance with safety requirements required by material manufacturers, Material Safety Data Sheets, and local, state, and federal rules and regulations.

1.8 CHANGES IN WORK

- A. During rehabilitation work, existing conditions may be encountered which are not known or are at variance with Contract Documents. Such conditions may interfere with Work and may consist of damage or deterioration of substrate or surrounding materials that could jeopardize integrity or performance of Work.
 - 1. Notify Architect/Engineer of conditions that may interfere with proper execution of Work or jeopardize performance of Work prior to proceeding with Work.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Concrete Masonry Units: ASTM C90; normal-weight, hollow units; face nominal 8 inches by 16 inches; thickness as shown on Drawings.
 - 1. Special Shapes: Provide where required for lintels, corners, jambs, headers, bond beams, and other special conditions.
- B. Mortar: Type S; Section 04 05 01.
- C. Grout: Fine or coarse; Section 04 05 01.
- D. Joint Reinforcing: ASTM A951/A951M; ASTM A153/A153M, Class B, hot-dipped galvanized; width 1 inch less than wall thickness; with 9-gauge side wires and 9-gauge cross wires; provide prefabricated corners and tee sections. Use 1 following or approved equal:

1. BL-10 Ladder Reinforcement supplied by Blok-Lok.
 2. #220 Ladder-Mesh supplied by Hohmann & Barnard, Inc.
 3. Series 200 Ladder 2 Wire Mesh supplied by Wire-Bond.
- E. Reinforcing Bars: ASTM A615/A615M, Grade 60. No 4 (1/2 inch diameter)
1. Grout for Dowels:
 - a. HIT-HY 150 MAX hybrid adhesive supplied by Hilt, Inc.
 - b. EPCON C6 Fast Curing Epoxy supplied by ITW Red Head.
 - c. AC100+ Gold vinylester supplied by Powers Fasteners, Inc.
- F. Preformed Control-Joint Gaskets: Rubber or polyvinyl chloride (PVC); designed to fit standard sash block and to maintain lateral stability in CMU wall.
1. Rubber: ASTM D2000 M2AA 805; use 1 of following or approved equal:
 - a. RS Series Rubber Control Joint supplied by Hohmann & Barnard, Inc.
 - b. Rubber Control Joint supplied by Wire-Bond.
 2. PVC: ASTM D2287, Type PVC-65406; use PVC Control Joint supplied by Wire-Bond or approved equal.
- G. Through-wall self-adhesive flashing:
1. Perm-A-Barrier as manufactured by WR Grace
 - a. 40 mils total thickness: 32 mils of rubberized asphalt and 8 mils of high-density polyethylene.
 2. Use mastic and/or liquid membrane as manufactured by WR Grace for laps and dowel penetrations through self-adhesive flashing.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine conditions for compliance with requirements and other conditions affecting installation or performance of CMU Work.
1. Ensure that work done by other trades is complete and ready for CMU Work.
 2. Verify that areas and conditions under which CMU Work is to be performed permit proper and timely completion of Work.
 3. Notify Architect/Engineer in writing of conditions which may adversely affect installation or performance of CMU Work and recommend corrections.
 4. Do not proceed with CMU Work until these conditions have been corrected and reviewed by Architect/Engineer.
 5. Commencing CMU Work constitutes acceptance of Work surfaces and conditions.

3.2 PROTECTION

- A. Take precautions to ensure safety of people, including building users, passers-by, and workmen, and animals, and protection of property, including adjacent building elements, landscaping, and motor vehicles.
- B. Prevent construction debris and other materials from coming into contact with pedestrians, motor vehicles, landscaping, buildings, and other surfaces that could be harmed by such contact.

- C. Protect paving and sidewalk, and adjacent building areas from mechanical damage due to scaffolding and other equipment.
- D. Limit access to Work areas.
- E. Erect temporary protective canopies, as necessary, over walkways and at points of pedestrian and vehicular access that must remain in service during Work.
- F. Assume responsibility for injury to persons or damage to property due to Work, and remedy at no cost to Owner.
- G. Protect:
 - 1. Sills, ledges, and projections from mortar droppings.
 - 2. Surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
- H. Turn scaffold boards near wall on edge at end of day to prevent rain from splashing mortar and dirt onto completed masonry.
- I. Spread coverings on ground and over wall surface to protect base of walls from rain-splashed mud and from mortar splatter.

3.3 INSTALLATION

- A. Construct CMU walls aligned, plumb, and true in required layout, making straight level courses.
 - 1. Use whole units of specified sizes wherever possible.
 - 2. Cut CMU neatly by power-saw to obtain sharp edges without damage.
 - 3. Build-in items furnished by other trades.
 - 4. Leave accurate openings necessary for subsequent installation of other work.
 - 5. Fill solidly with mortar around conduit passing through CMU.
- B. Lay hollow units with full mortar coverage on horizontal and vertical face shells. Bed webs in courses of piers, columns, pilasters, adjacent to any cores to be grouted, and in starting course on footings and solid foundation walls. Lay solid units with full head and bed joints.
- C. Head and bed joints shall be 3/8 inches thick. Tool joints when thumbprint hard with concave jointer. Cut flush joints on unexposed interior surfaces.
- D. Provide continuous reinforcement in horizontal joints 16 inches on center vertically.
 - 1. Splice by lapping side bars 6 inches minimum.
 - 2. Provide corner and tee reinforcement at wall intersections.
 - 3. At vertical control and expansion joints, stop reinforcement 2 inches from joints.
 - 4. At wall openings, place additional reinforcement in bed joints above and below opening and extend at least 2 feet beyond opening.
- E. Brace walls as necessary during construction. Do not remove braces until walls are permanently braced by structure.
- F. Control and Expansion Joints: Construct vertical control joints at locations shown on Drawings.

1. Install preformed control-joint gasket, designed to fit standard sash block, as CMU construction progresses.
 2. Do not allow bed joint reinforcing or other materials to span joint without provision to allow for in-plane wall movement.
- G. Bond Beams: Construct bond beams at locations shown on Drawings.
- H. Vertical Reinforcement:
1. Placing Reinforcement:
 - a. Fabrication and installation details to comply with ACI 315.
 - b. Provide bars of sizes and at spacings and locations shown on Drawings.
 - 1) Provide reinforcing on each side of vertical joints and openings, and at corners.
 - c. Install dowels and reinforcing bars as shown on Drawings.
 - 1) Drill holes and grout dowels into concrete foundation or base element, as shown on Drawings. For proprietary grout, follow written instructions and recommendations of grout manufacturer.
 - 2) Use spacers to accurately and securely position bars.
 - 3) Lap splice bars as shown on Drawings.
 - d. Thread CMU over reinforcing bars. Cores containing reinforcing steel shall be completely free of mortar droppings.
 2. Grouting: Fill cores solid with grout.
 - a. Remove mortar fins in cores as wall construction progresses. Remove droppings and debris from bottom of cores.
 - b. Do not place grout until entire height of masonry to be grouted has attained sufficient strength to resist grout pressure.
 - c. Place grout in cores for maximum lift height of 5 feet unless otherwise approved by Architect/Engineer.
 - d. Consolidate grout with mechanical vibrator.
 - e. Allow initial settlement of grout, then vibrate again with mechanical vibrator.
 - f. Place next lift after initial settlement of previous lift, before previous lift has set up.
 - g. Consolidate next lift with mechanical vibrator, extending vibrator 12 to 18 inches into previous lift.
 - h. Limit grout pour to maximum height specified by TMS 402/ACI 530/ASCE 5 unless demonstration panels show cores are filled and grout is adequately consolidated for greater pour heights and greater pour heights approved by Architect/Engineer.
 - i. Place grout within 1 1/2 hours of initial introduction of water and before initial set.
 - j. For pours below top of wall, stop grout 1 1/2 inches below top of CMU to form key with succeeding grout pour.
 - k. At top of wall, reconsolidate grout and fill open space flush with top of wall. Keep CMU and grout covered and damp until grout has cured.
- I. Prevent mortar, grout, and soil from staining CMU or existing masonry to be left exposed. Immediately remove mortar, grout, or soil from surfaces.
- J. Do not load CMU construction with floor or roof loads or cause deflection of wall support elements until walls have achieved sufficient strength and will not be adversely affected.
- K. Cut out and repoint defective joints. Fill holes in joints of CMU surfaces to be exposed or painted with mortar and tool. Repair or replace cracked CMU sections, as directed by Architect/Engineer.

3.4 FIELD QUALITY CONTROL

- A. Inspector designated by Owner will observe cores to be grouted prior to grout placement, to verify size and placement of reinforcement and openness and cleanliness of cores.
- B. Provide access to Work area for inspections.

3.5 CLEANING

- A. Remove mortar spots and droppings from CMU surfaces, and leave surfaces clean.
- B. Clean Work area; remove debris, refuse, and surplus material from Site; and dispose of legally.

END OF SECTION

SECTION 07 20 00

ROOF INSULATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION

- A. Work Included: Work consists of furnishing all labor, materials and equipment necessary to effectively install the roof insulation as shown on the drawings, including, but not necessarily limited to, the following:
 - 1. New wood blocking and plywood sheathing.
 - 2. New rigid insulation and gypsum roof boards.
 - 3. New tapered edge strips.
 - 4. Fasteners and contingent materials.
- B. Related Work Specified Elsewhere
 - 1. Selective Demolition (Roof Removal): Section 02 41 00.
 - 2. Sheet Metal Flashing and Trim: Section 07 62 00.
 - 3. Membrane Roofing: Section 07 50 00.
- C. System Description
 - 1. Roof O: New 4-inch thick polyisocyanurate insulation board and 1/8-inch tapered insulation system covered with new 1/2-inch thick gypsum cover board. The insulation system shall be in compliance with the criteria of UL "Class A" and FM 1-90, manufacturer's requirements for attachment, and compatible with the EPDM membrane system for guarantee by the manufacturer.
 - 2. Roof N: New 1/8-inch tapered insulation system covered with new 1/2-inch thick gypsum cover board. The insulation system shall be in compliance with the criteria of UL "Class A" and FM 1-90, manufacturer's requirements for attachment, and compatible with the EPDM membrane system for guarantee by the manufacturer.

1.3 QUALITY CONTROL

- A. Requirements of Regulatory Agencies: The Work under this section shall be subject to all applicable provisions of the state and local building and safety codes.
- B. Reference Standards: Except as modified by the Drawings and Specifications, the following documents, or applicable portions thereof, govern the work.
 - 1. National Roofing Contractors Association (NRCA) "Roofing and Waterproofing Manual - Fifth Edition."
- C. Qualifications
 - 1. Prior to the Notice of Award, the Contractor shall submit evidence that his existing company has five (5) years continuous successful experience in applying specific

material(s), and is currently an approved applicator for the specific material manufacturer(s).

- D. UL Listed Products - Provide insulation materials for roofing work which have been tested and listed by UL, and bear UL label on each package, or are shipped to the project with a UL certification of compliance.
- E. Fire and Insurance Ratings: Comply with ratings as required by governing authorities and codes, and comply with the following:
 - 1. Underwriters Laboratories (UL) "Class A."
 - 2. Factory Mutual (FM) 1-90 Rating.

1.4 SUBMITTALS

- A. Required Prior to Commencement of Work
 - 1. Manufacturer's literature, Material Safety Data Sheets and application instructions. All submittals shall be made in triplicate. When submitting manufacturer's literature, highlight all items pertaining to this project.
 - 2. Detailed shop drawings, including plan views and sections, of the new tapered sumps at drains.
 - 3. Provide fastener attachment layout. Fastener attachment shall conform with Factory Mutual (FM) approval information for fastener quantity and spacing requirements.
- B. Required After Completion of Work
 - 1. Contractor's warranty per Section 00 70 00.

1.5 PRODUCT DELIVERY AND STORAGE

- A. Delivery of Materials: Deliver material to jobsite in sealed, undamaged containers. Identify each container with material name, date of manufacturer, and lot number.
- B. Keep all materials dry while they are transported, stored and installed. Reject any new materials which exhibit evidence of moisture during application, or have been exposed to moisture.
- C. All materials shall be stored in enclosed trailers on the ground, except a one-day supply of materials which may be stored on the roof on raised platforms with weather protective coverings. The manufacturer's standard packaging and covering is not considered adequate weather protection. Tarpaulins are required for protection of all roof materials. **MATERIAL STORAGE PROCEDURES WILL BE CONSTANTLY MONITORED AND STRICTLY ENFORCED.**
- D. Materials stored on roofs shall be limited to the safe loading of installed materials, decking and structural framing. Ballast shall be stockpiled on the roof in small mounds or rows on the completed roofing.

1.6 JOB CONDITIONS

- A. All dimensions and existing details shall be field-verified by contractor prior to bidding and acquisition or installation of materials. Contractor shall notify the engineer of any existing condition found to be different than that indicated in the contract documents. Engineer shall review the situation and inform contractor of necessary changes, if any.

- B. Install materials in strict accordance with all safety and weather conditions required by manufacturer, product literature, Material Safety Data Sheets, or of local, state, and federal rules and regulations.

1.7 PROTECTION

- A. Temporary tie-offs and water cut-offs shall be provided by the Roofing Contractor at the end of each day, and where and when a danger exists that water caused by precipitation may get under the new roofing membrane. Temporary tie-offs and water cut-offs shall be made which are solidly secured. Tie-offs or cut-offs shall extend beyond new insulation and membrane, and be adhered to the existing roof system. All temporary tie-offs and water cut-offs shall be removed prior to proceeding with the work by uncovering the edge of the insulation and removing all temporary materials.
- B. When installing temporary tie-offs or water cut-offs, do not cut any staggered insulation pieces that are already installed. Rather, straighten the staggered insulation with unattached pieces of insulation. Remove all temporary insulation pieces prior to proceeding with the work.

1.8 WARRANTIES

- A. Warranty (by contractor to the Owner). Applies to all reroofed areas (refer to Section 00 70 00).
- B. Manufacturer's Material Guarantee (by Materials Manufacturer to the Owner). Applies to all reroofed areas (contractor must contact membrane manufacturer prior to bidding, to confirm that all proposed system components are acceptable).

1.9 CHANGES IN THE WORK

- A. During reroofing work, the contractor may encounter existing conditions which are not now known or are at variance with the Drawings or Specifications (discovery). Such conditions may interfere with reroofing work and may consist of damage or deterioration to the deck or surrounding materials or components which could jeopardize the integrity of the new roof. The contractor shall notify the engineer of all discoveries he believes may interfere with proper execution of the work or jeopardize the integrity of the new roof prior to proceeding with work related to such discoveries.
- B. In the event of discrepancies within the Drawings, within the Specifications, or between the Drawings and Specification, the more stringent of the two items shown or described shall be considered to be shown or specified at all locations where the discrepancies occur. The Engineer shall be notified of such discrepancies.
- C. When a substitute or alternate is requested by the Contractor, and such substitute or alternate is accepted by the Engineer, the Contractor shall bear all additional costs which may arise directly or indirectly from the use of the substitute or alternate.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Insulation System

1. Carlisle approved.
2. Firestone approved.

2.2 MATERIALS

- A. Wood Blocking
 1. Lumber: Hem-fir No. 1 S-Dry. 2 or better.
 2. Wood Blocking Fasteners:
 - a. Nails (wood blocking to new wood blocking or existing lumber): Galvanized common nails, 10d and 16d as required.
 - b. Concrete Spikes (new wood blocking to concrete): Rawl spikes.
 - c. Deck Screws: Heavy-duty, water resistant to attach wood blocking to metal deck.
- B. Plywood
 1. Plywood: APA-rated Exposure 1, 1/2-inch thick or 3/4-inch thick.
- C. Isocyanurate Insulation as Manufactured By
 1. Firestone, Carmel, IN
 - a. ISO 95+
 2. Johns Manville, Denver, Colorado
 - a. UltraGard
- D. Rigid Board Insulation
 1. Isocyanurate Insulation: 4-inch thick, as new layer on roof O
- E. Tapered Rigid Insulation System
 1. Tapered Insulation: 1/8-inch-per-foot slope system, factory-fabricated from Firestone Building Products insulation or Engineer-approved equal.
- F. Tapered Edge Strip
 1. "Flame-Tamer Wedge Strip," use three sizes as needed at edge of tapered crickets.
 - a. Tapered from 1/2-inch high to 0 inch.
- G. Gypsum Board
 1. DensDeck Prime board, 1/2-inch thick, as manufactured by Georgia-Pacific Company.
 2. Securock® gypsum fiber roof board, 1/2-inch thick, as manufactured by United States Gypsum Company.
- H. Insulation and Gypsum Roof Board Attachment to Metal Decks
 1. Mechanically attach the new isocyanurate insulation boards and gypsum roof boards with heavy-duty deck screws and 3-inch metal plates. Fastener quantity and spacing shall be in conformance with the fastener manufacturer's and insulation manufacturer's Factory Mutual (FM) "1-90" requirements.
 2. In all areas where the underside of the metal roof deck is exposed, use colored fasteners to match as closely as possible the underside of the roof deck.
- I. Tapered edge at crickets.
 1. Add 1/2-inch to 0 by 6-inch tapered edge at the low, outside edges of all new tapered insulation to provide smooth transition for gypsum board insulation.

PART 3 EXECUTION

3.1 COORDINATION

- A. Coordinate installation of insulation with work specified in Section 02 41 00-Selective Demolition (Roof Removal), and Section 07 53 20 EPDM Membrane Roofing, and Section 07 62 00-Sheet Metal Flashing and Trim.
- B. Do not install more insulating material than can be made watertight by the end of the work day.
- C. Do not install roofing materials when rain is imminent. Do not remove excessive quantity of existing roof membrane ahead of reroofing.

3.2 PREPARATION OF SUBSTRATE

- A. Examine the surface condition of the substrate and the conditions under which roofing work is to be performed. Do not proceed with the new installation until unsatisfactory conditions have been corrected in a manner approved by the Owner.
- B. Clean the substrate of projections and substances detrimental to the work. Voids, cracks and holes shall be filled with an approved material and be struck flush with adjoining surfaces.
- C. All surfaces must be clean and dry.
- D. Proceeding with the work shall signify the Contractor's acceptance of the substrate being covered by the new installation.

3.3 WOOD BLOCKING INSTALLATION

- A. Install new wood blocking where necessary or as shown on Drawings.
- B. Attach wood blocking to new or existing wood blocking lumber utilizing nails in a 12-inch o.c. staggered pattern.
- C. Attach wood blocking to concrete or wood deck in a 12-inch o.c. staggered pattern.
- D. Attach plywood to walls using appropriate fastener for substrate and anchor 6 inches on center.

3.4 RIGID INSULATION INSTALLATION

- A. Over the roof deck, install new 4-inch thick isocyanurate board insulation and 1/8-inch tapered isocyanurate system where shown on the drawings. Cover all insulation with 1/2-inch gypsum roof bords. Mechanically attach all boards to the deck using deck screws and plates. Fastener quantity and spacing shall be in conformance with FM 1-90 requirements, including increased fastening at perimeter and corners.
- B. ALL FASTENERS ON TYPE B METAL DECK SHALL ENGAGE THE DECK TOP FLANGE. ANY FASTENERS NOT ENGAGING THIS DECK TOP FLANGE WILL BE REMOVED. FASTENERS SHALL NOT EXTEND FURTHER THAN 3/4 INCH BELOW THE TOP DECK FLANGE.

- C. The surface of the top layer of insulation shall be broomed clean of debris prior to the installation of the membrane.
- D. The surface of the top layer of insulation shall be broomed clean of debris prior to the installation of the membrane.

3.5 TAPERED SUMPS AT SCUPPERS OR DRAINS

- A. At all drain locations install new tapered insulation either 2 feet by 4 feet or 4 feet by 4 feet to engage drainage sumps that transition into surrounding insulation.
- B. Modify tapered insulation as needed to accommodate new sumps at drains.

3.6 CLEANUP

- A. Perform final cleanup per Division 1 - Section 01 74 00 and Division 2 - Section 02 41 00 requirements.
- B. Remove trash, debris, and equipment from the jobsite.
- C. Repair damage and remove stains caused by the Work.

END OF SECTION

SECTION 07 24 13

POLYMER-BASED EXTERIOR INSULATION AND FINISH SYSTEMS

PART 1 GENERAL

1.1 SUMMARY

- A. This Section includes Class PB exterior insulation and finish systems (EIFS) applied over gypsum sheathing, gypsum sheathing, and self-adhesive flashings.
- B. Related Sections include the following:
 - 1. Joint Sealants: Section 07 92 00.

1.2 DEFINITIONS

- A. EIFS: Exterior Insulation and Finish System(s).
- B. Class PB EIFS: A “nonload bearing, exterior wall cladding system that consists of an insulation board attached either adhesively, mechanically, or both to the substrate; an integrally reinforced base coat; and a textured protective finish coat,” as defined by ASTM C1397.
- C. Class PB EIFS with Drainage: A Class PB EIFS installed over a moisture barrier with provision for drainage between the moisture barrier and the EIFS insulation.

1.3 SUBMITTALS

- A. Product Data: For each product included in the installation
- B. Manufacturer’s written installation instructions
- C. Shop Drawings: Include plans, elevations, sections, details, penetrations, terminations, fasteners, and attachments to other work.
- D. Installer Qualifications and certification by the manufacturer.
- E. Samples: For each EIFS and for each color and texture required.
- F. Field quality-control test reports.
- G. Maintenance data.
- H. Executed warranty documents

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Certified in writing by EIFS manufacturer to install manufacturer’s system using trained workers.
- B. Source Limitations: Obtain EIFS through one source from a single EIFS manufacturer and from sources approved by EIFS manufacturer as compatible with system components.

- C. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication, installation, and matching adjacent EIFS to remain.
 - 1. Construct a minimum 10 linear foot section of the exterior entry soffit.
 - 2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.5 COORDINATION

- A. Coordinate installation of EIFS with related Work specified in other Sections to ensure that wall assemblies, including sheathing, flashing, trim, joint sealants, windows, and doors, are protected against damage from the effects of weather, age, corrosion, moisture, and other causes. Do not allow water to penetrate behind flashing and protective coating of barrier EIFS.

1.6 WARRANTY

- A. Provide manufacturer's standard 5-year warranty at the completion of the project.
 - 1. Submit the Contract Documents to the manufacturer for review and comment prior to construction.
 - 2. Comply with manufacturer's Contract Document review comments and all requirements for issuance of the warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers:
 - 1. EIFS: Subject to compliance with requirements, provide products by Senergy, Inc. or Architect/Engineer approved equal.
 - 2. Sheathing: Georgia-Pacific.
- B. Basis-of-Design Product: The design for EIFS is based on Senergy Senerflex Classic. Subject to compliance with requirements herein, provide the named product.

2.2 MATERIALS

- A. Compatibility: Provide substrates, adhesive, fasteners, board insulation, reinforcing meshes, base- and finish-coat systems, sealants, and accessories that are compatible with one another and approved for use by EIFS manufacturer for the manufacturer's system specified.
- B. Reinforcing Mesh: Use manufacturer's Standard-Impact Reinforcing Mesh, Strip Reinforcing Mesh, Detail Reinforcing Mesh and Corner Reinforcing Mesh except as specified below:
 - 1. Intermediate-Impact Reinforcing Mesh.
- C. Anchors: Use manufacturer's insulation board fastener with bugle head screw.
- D. Finish-Coat Colors, Textures, and Patterns: Match existing.
- E. Gypsum sheathing:
 - 1. Fiberglass-mat faced gypsum sheathing: ASTM C1177
 - a. Thickness: 5/8 inch
 - b. Width: 4 feet

- c. Acceptable products:
 - 1) DensGlass Gold Sheathing, Georgia-Pacific
 - 2) Architect approved equal

PART 3 EXECUTION

3.1 INSTALLATION

- A. Gypsum Sheathing:
 - 1. General: In accordance with GA-253, ASTM C1280 and the manufacturer's written recommendations.
 - a. Screws are permitted. Nails and staples are not permitted.
- B. General: Comply with EIFS manufacturer's written instructions for installation of EIFS.
- C. Expansion Joints: Install at locations indicated on the drawings.
- D. Mechanical anchorage: Follow EIFS manufacturer's written installation instructions for installation of mechanical anchors. Install a minimum of 1 inch into framing.
- E. Base Coat: Apply to exposed surfaces of insulation in minimum thickness recommended in writing by EIFS manufacturer, but not less than 1/16-inch.
- F. Reinforcing Mesh: Completely embed mesh in wet base coat, applying additional base-coat material if necessary, mesh color is not visible and pattern is not texturally detectable.
- G. Finish Coat: Apply to produce a uniform finish of color and texture matching approved sample and free of cold joints, shadow lines, and texture variations.

3.2 FIELD QUALITY CONTROL

- A. Architect/Engineer will perform periodic sit inspections during execution of the work observing for general conformance with repair documents.

END OF SECTION

SECTION 07 53 23

EPDM SINGLE-PLY MEMBRANE ROOFING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION

- A. Work Included: Work consists of furnishing all labor, materials and equipment necessary to effectively install a fully adhered EPDM single-ply roofing membrane system, at roof Section O, and N and make membrane repairs, as shown on the drawings, including, but not necessarily limited to, the following:
 - 1. New roofing membrane.
 - 2. New base flashings.
 - 3. Miscellaneous accessories.
- B. Related Work Specified Elsewhere
 - 1. Demolition and Removal: Section 02 41 00.
 - 2. Roof Insulation: Section 07 20 00.
 - 3. Sheet Metal Flashing and Trim: Section 07 62 00.
 - 4. Joint Sealants: Section 07 92 00.
 - 5. Solar Energy Collections: Section 48 14 13.

1.3 QUALITY CONTROL

- A. Prior to the Notice of Award, the Contractor shall submit evidence that his existing company has five (5) years continuous successful experience in applying specified material(s), and is currently an approved applicator for the specific material manufacturer(s).
- B. Reference Standards: Except as modified by the Drawings and Specifications, the following documents, or applicable portions thereof, govern the work.
 - 1. National Contractors Association (NRCA) "Roofing and Waterproofing Manual - Fifth Edition."
- C. Qualifications
 - 1. Prior to the Notice of Award, the Contractor shall submit evidence that his existing company is currently an approved applicator for the specific roofing system manufacturer and has five (5) years continuous successful experience in applying the manufacturer's roofing system.
 - 2. Prior to Notice of Award the contractor shall, if asked by the Owner, provide a list of 10 successfully complete roofing projects for municipalities or school districts of similar scope. Contact names and phone numbers must be included.
- D. Manufacturer's Products: Obtain roofing materials from only one manufacturer. Provide materials not available from the manufacturer from sources which are recommended and approved by the manufacturer.

- E. Underwriters Laboratories (UL) Listed Products: Provide materials which have been tested and listed by UL, and bear UL label on each package, or are shipped to the project with a UL certification of compliance.
- F. Fire and Insurance Ratings: Comply with ratings as required by governing authorities and codes, and comply with the following:
 - 1. Underwriters Laboratories (UL) "Class A" rating.
 - 2. Factory Mutual (FM) "1-90" rating.

1.4 SUBMITTALS

- A. Required Prior to Commencement of Work
 - 1. Manufacturer's literature, including insulation fastening patterns, details, roof seam layout, Material Safety Data Sheets, and application instructions. All submittals shall be made in triplicate. When submitting manufacturer's literature, highlight all items pertaining to this project.
 - 2. Sample copies of applicable guarantees.
 - 3. Copy of the completed manufacturer's guarantee application.
 - 4. Submit documentation from roofing manufacturer stating that:
 - a. Manufacturer has examined project drawings, specifications, and warranty requirements.
 - b. The products herein specified are acceptable for and compatible with the roofing and flashing system design.
 - c. Manufacturer will issue the specified warranty if the roofing and flashing system is installed in accord with their instructions.
- B. Required Before Completion of Work
 - 1. Schedule Manufacturer's guarantee inspection with School District personnel to insure their attendance at inspection.
- C. Required After Completion of Work
 - 1. Contractor's warranty per Section 01 78 36.
 - 2. Copy of membrane manufacturer's guarantee inspection report.
 - 3. Manufacturer's guarantee per Section 07 53 23-1.07B.

1.5 PRODUCT DELIVERY AND STORAGE

- A. Delivery of Materials: Deliver material to job site in sealed, undamaged containers. Identify each container with material name, date of manufacturer, and lot number.
- B. Keep all materials dry while they are transported, stored and installed. Do not allow materials to be exposed to any moisture anywhere, at any time, during transportation, storage, handling and installation. Reject any new materials which exhibit evidence of moisture during application, or have been exposed to moisture.
- C. Store all materials on raised platforms with weather protective coverings. The manufacturer's standard packaging and covering is not considered adequate weather protection. Tarpaulins are preferred for protection of all roof materials. If visqueen coverings are used, venting of each package is required. **MATERIAL STORAGE PROCEDURES WILL BE CONSTANTLY MONITORED AND STRICTLY ENFORCED.**

- D. All adhesives must be kept above 40°F. In colder weather months – adhesives must be stored and kept warm overnight. Storage on roof unprotected in temperatures below 40°F. is not permitted.
- E. Materials stored on roofs shall be limited to the safe loading on installed materials, decking and structural framing. Photo voltaic equipment may be stockpiled on the roof in small amounts. Distribution of pallets of concrete pavers and EPDM rolls, is required to eliminate heavy "spot loading." Loading must not exceed 30 psi.

1.6 JOB CONDITIONS

- A. All dimensions and existing details shall be field-verified by contractor prior to bidding and acquisition or installation of materials. Contractor shall notify the engineer of any existing condition found to be different than that indicated in the contract documents. Engineer shall review the situation and inform contractor of necessary changes, if any.
- B. Install materials in strict accordance with all safety and weather conditions required by manufacturer, product literature, Material Safety Data Sheets, or of local, state, and federal rules and regulations.
- C. Observe all fire, safety and pollution regulations of governing authorities.

1.7 PROTECTION

- A. Temporary tie-offs and water cut-offs shall be provided by the Contractor at the end of each day, and where and when a danger exists that water caused by precipitation may get under the new roofing membrane. Tie-offs or cut-offs shall extend beyond new insulation and membrane, and be adhered to the existing roof system. All temporary tie-offs and water cut-offs shall be removed prior to proceeding with the work by uncovering the edge of the insulation and removing all temporary materials.
- B. When installing temporary tie-offs or water cut-offs, do not cut any staggered insulation pieces that are already installed. Rather, straighten the staggered insulation with unattached pieces of insulation. Remove all temporary insulation pieces prior to proceeding with the work.
- C. At completion of the project, the Contractor shall water test and verify that all drain lines are unblocked. If any drain line blockages are found, Contractor is responsible for all costs to unblock these drain lines.
- D. Avoid heavy traffic on completed work.
- E. Restore to original condition or replace all work and materials damaged by roofing operations.
- F. Protect paving and building surfaces adjacent to hoists and other roofing equipment.
- G. Remove protection upon completion of roofing work.

1.8 WARRANTIES

- A. Roof System Warranty (by contractor to the Owner). Applies to all reroofed areas, as described in General Conditions and Section 00 70 00.

- B. Manufacturer's material.

1.9 CHANGES IN THE WORK

- A. During reroofing work, the contractor may encounter existing conditions which are not now known or are at variance with the drawings or specifications (discovery). Such conditions may interfere with reroofing work and may consist of damage or deterioration to the deck or surrounding materials or components which could jeopardize the integrity of the new roof.

The contractor shall notify the engineer of all discoveries he believes may interfere with proper execution of the work or jeopardize the integrity of the new roof prior to proceeding with work related to such discoveries.

- B. In the event of discrepancies within the Drawings, within the Specifications, or between the Drawings and Specification, the more stringent of the two items shown or described shall be considered to be shown or specified at all locations where the discrepancies occur. The Engineer shall be notified of such discrepancies.
- C. When a substitute or alternate is requested by the Contractor, and such substitute or alternate is accepted by the Engineer, the Contractor shall bear all additional costs which may arise directly or indirectly from the use of the substitute or alternate.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. EPDM Single-Ply Roofing Membrane
 - 1. Firestone, Carmel, Indiana.
 - 2. Carlisle, Carlisle, Pennsylvania.

2.2 MATERIALS

- A. Single-Ply Membrane
 - 1. Membrane:
 - a. Roof Replacements: UL Class A, FM 1-90 - Fully Adhered:
 - 1) Firestone RubberGard 90 mil.
 - 2) Carlisle, Sureseal 90 mil.
 - b. Perimeter wall repairs
 - 1) Firestone RubberGard 60 mil.
 - 2) Carlisle, Sureseal 60 mil.
 - 2. Pipe and Penetration Flashings:
 - a. Manufacturer's standard molded EPDM pipe flashing. Use field fabricated seals where molded pipe flashings cannot be installed for roof penetrations.
 - 3. Collar Seals: Manufacturer's standard molded EPDM pipe flashing boots.
 - 4. Manufacturer's standard materials for:
 - a. Adhesives.
 - b. Joint sealant.
 - c. Primers and cleaners.
 - d. Mechanical fasteners and fastening systems.
 - 5. Color: Black.

6. Flashing Accessories: Types recommended by manufacturer, provided at locations indicated and at locations recommended by manufacturer, including adhesive tapes, flashing cements, and sealants.
7. Primer and Sheet Bonding Adhesive: Solvent-based types recommended by manufacturer for the types and condition of the substrate and formulated to withstand minimum 90 pounds per sq ft uplift force.
8. Mechanical Fasteners: Heavy-duty metal plates, heavy-duty fasteners, batten strips, accessory components, RPF fastening strip device, and adhesives to suit particular substrate, and as recommended by manufacturer.
9. Lap Splices: 3 inch in-seam lap splice tape recommended by manufacturer formulated to withstand minimum 90 pounds per sq ft uplift force.
10. Field and Flashing Seam Strip-In: Manufacturer's 5- or 6-inch quick seam flashing - cover all field and flashing seams between EPDM sheets.
11. Quickseam reinforced perimeter fastening strip: Manufacturer's 6-inch reinforced perimeter fastening strip with 3 inch wide quickseam tape laminated to strip.
12. Pourable Sealer Pitch Pans: Fabricate units to form a metal dam and completely flash with uncured membrane material. Fill pourable sealer pitch pans with manufacturer's pourable sealer.
13. Water Block Seal (S-20): Install at top of all base flashings. Compress to substrate with termination bar.
14. EPDM Walk Pads: At all photo voltaic arrays, bases, and at all access ladders top and bottom, install walk pads - minimum 30" x 30" spacing one inch between pads. Minimum thickness .3-in. thick.
15. Drain Inserts: Marathon or similar drain insert designed to be compatible with the EPDM roofing system, sized appropriately and made to provide a watertight seal to the inside of the drain leader pipe.
16. Drain Strainer: Cast iron, replace any plastic strainers with new cast iron strainers to fit.
17. Concrete Pavers: 2 ft. sq. reinforced 4,000 psi concrete pavers with 7 percent minimum air entrainment. Provide continuous paver protection on Roof N. Set pavers on new 90 mil EPDM. Fit pavers, cut to size, over entire gutter area roofing. Diamond grind on surface at ladders' top and bottom.
18. 3-course at masonry wall: Use Kannak 229. Trowel grade and polymesh to seal top of EPDM flashings. Cover wall 3-inches above top of flashing and extend over termination bar on EPDM membrane.
19. Retrofit Drains: Aluminum Classic Drain - 3-inch diameter as manufactured by OMG, Inc. Agawam, MA.
20. Drain Leaders: 3-inch diameter DWV grade PVC pipe.

PART 3 EXECUTION

3.1 COORDINATION

- A. Coordinate membrane roofing work with the removal of the existing roofing specified in Section 02 41 00-Demolition and Removal, installation of new roof insulation, roof boards, and wood blocking specified in Section 07 20 00.
- B. Coordinate base flashing work with new sheet metal installations specified in Section 07 62 00-Sheet Metal Flashing and Trim.
- C. Do not install roofing materials when rain is imminent. Do not remove excessive quantity of existing roof membrane ahead of reroofing.

- D. Do not install roofing materials if forecast with temperature is lower than 40 degrees Fahrenheit.
- E. Install only as much insulation, roof boards, and roofing as can be completed by the end of each work day. Phased roofing will not be allowed.
- F. Complete all detail and perimeter flashings on a daily basis.

3.2 PREPARATION OF SUBSTRATE

- A. Examine the surface condition of the substrate and the conditions under which roofing work is to be performed. Do not proceed with the work until unsatisfactory conditions have been corrected in an approved manner.
- B. Clean the substrate of projection and substances detrimental to the work.
- C. Raise and reset all rooftop equipment as required for proper installation of membrane and flashings. Include any electrical, duct, and piping disconnections, reconnections and extensions required to complete the work.
- D. Comply with the manufacturer's instructions for the preparation of the substrate to receive the roof system.
- E. Prime the substrate as recommended by the manufacturer, if required.

3.3 MEMBRANE INSTALLATION

- A. General
 - 1. Install roofing and flashing system and all accessory items including seaming, adhesives, flashing, self-flashing, reinforcement (if any) and surfacing in strict accord with roofing manufacturer's printed instructions current at date of bidding.
 - 2. Cut sheets to the maximum size possible, in order to minimize seams and to accommodate contours of roof deck and proper drainage across the shingled laps of the sheets.
 - 3. Install flashing accessories and other items as recommended by the manufacturer, even though not shown on the drawings.
 - 4. Flash roof drains and all penetrations in accordance with manufacturer's recommendations. All flashings shall be covered by counterflashing or other appropriate type of covering, as recommended by the manufacturer.
 - 5. Provide adequate protection of completed work until substantial completion. Prevent traffic, storage or movement of materials or equipment on completed roofing.
 - 6. Prevent materials from entering and clogging drains and from spilling or migrating onto surfaces of other work.
- B. Fully Adhered
 - 1. Bond the membrane to the gypsum roof board and plywood and other substrates with adhesive in the manner required by the manufacturer.
 - 2. Bond membrane in the field of the roof to the gypsum roof board in a manner so as no bonding adhesive will penetrate into underlying insulation and damage the insulation. Contractor shall be responsible to replace all insulation damaged during installation of new roofing.

3.4 EPDM WALL FLASHING REPAIRS

A. General

1. Install roofing and flashing system and all necessary items including seaming, adhesives, flashing, self-flashing, reinforcement (if any) and surfacing in strict accord with roofing manufacturer's printed instructions current at date of bidding.
2. Cut sheets to the maximum size possible, in order to minimize seams and to accommodate contours of roof deck and proper drainage across the shingled laps of the sheets.
3. Install flashing accessories and other items as recommended by the manufacturer, even though not shown on the drawings.
4. Move ballast back from repair area sufficient to make flashing repairs.
5. Cut and remove existing EPDM membrane 12-inches up vertical wall and 12-inches out horizontal onto field of roof.
6. Install RPF strip at base of wall, secure 12-inches on center.
7. Clean existing EPDM membrane to receive repair.
8. Install new 60-mil EPDM membrane, secure to RFP strip and tied into existing EPDM membrane at wall and field of roof as shown on Drawings.
9. Reinstall rock ballast.

3.5 CLEANUP

- A. Remove trash, debris, and equipment from jobsite.
- B. Repair damage and remove stains caused by the Work.

END OF SECTION

SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION

- A. Work Included: Work consists of furnishing all labor, materials and equipment necessary to effectively install the flashing as shown on the Drawings or described in these Specifications, including, but not necessarily limited to, the following:
 - 1. New wall flashing and counterflashing.
 - 2. New perimeter flashings.
 - 3. New miscellaneous accessories.
 - 4. New miscellaneous flashings.
- B. Related Work Specified Elsewhere
 - 1. Selective Demolition (Roof Removal): Section 02 41 00.
 - 2. Roof Insulation: Section 07 20 00.
 - 3. Membrane Roofing: Section 07 50 00.

1.3 QUALITY CONTROL

- A. Requirements of Regulatory Agencies: The Work under this section shall be subject to all applicable provisions of the state and local building and safety codes.
- B. Qualifications
 - 1. Prior to the Notice of Award, the Contractor shall submit evidence that his existing company has five (5) years continuous successful experience in applying specified material(s), and is currently an approved applicator for the specific material manufacturer(s).
- C. Reference Standards: Except as modified by the Drawings and Specifications, the following documents or applicable portions thereof, govern the work.
 - 1. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) "Architectural Sheet Metal Manual - Fourth Edition."
 - 2. National Roofing Contractors Association (NRCA) "Roofing and Waterproofing Manual-Fifth Edition."

1.4 SUBMITTALS

- A. Required After the Completion of Work
 - 1. Contractor's warranty per Section 00 70 00.

1.5 JOB CONDITIONS

- A. All dimensions and existing details shall be field-verified by contractor prior to bidding and acquisition or installation of materials. Contractor shall notify the engineer of any existing condition found to be different than that indicated in the contract documents. Engineer shall review the situation and inform contractor of necessary changes, if any.

1.6 CHANGES IN THE WORK

- A. During reroofing work, the contractor may encounter existing conditions which are not now known or are at variance with the Drawings or Specifications (discovery). Such conditions may interfere with reroofing work and may consist of damage or deterioration to the deck or surrounding materials or components which could jeopardize the integrity of the new roof.

The contractor shall notify the engineer of all discoveries he believes may interfere with proper execution of the work or jeopardize the integrity of the new roof prior to proceeding with work related to such discoveries.

- B. In the event of discrepancies within the Drawings, within the Specifications, or between the Drawings and Specifications, the more stringent of the two items shown or described shall be considered to be shown or specified at all locations where the discrepancies occur. The Engineer shall be notified of such discrepancies.
- C. When a substitute or alternate is requested by the Contractor, and such substitute or alternate is accepted by the Engineer, the Contractor shall bear all additional costs which may arise directly or indirectly from the use of the substitute or alternate.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Sheet Metal
 - 1. Galvanized Steel: Mill-finished galvanized steel, 24 gauge, unless otherwise noted, conforming to ASTM A525, Class G90 zinc coating.
 - 2. Prefinished Galvanized Steel: Commercial quality (AISI Class G90), 24 gauge, hot-dipped, galvanized steel primed and coated with a full strength fluoropolymer system of 1.0 mil (minimum) dry-film thickness on the exposed side and a white wash coat of 0.3 mil (minimum) dry-film thickness on the unexposed side.
 - 3. Color shall be chosen by Owner.
- B. Fasteners
 - 1. Metal (exposed) to Wood: "Teks" fasteners, 10 - 16 x 3/4 in. HWH Teks/1 with an EPDM sealing washer, as manufactured by ITW Buildex, Itasca, Illinois or Engineer-approved equal.
 - 2. Metal (concealed) to Wood: Galvanized nails - minimum 6D.
 - 3. Metal to Metal: "Teks" fasteners, 10 - 16 x 3/4 in. HWH Teks/1 with an EPDM sealing washer, as manufactured by ITW Buildex, Itasca, Illinois or Engineer-approved equal.
 - 4. Metal to Masonry: Zamac Nalin Anchors, 1/4 in. x 1 in. (minimum), carbon steel, mushroom head, as manufactured by Ringo Johnson Industrial, Zhejiang, China.
- C. Miscellaneous Accessories

1. Solder: ASTM B32, 50 percent tin and 50 percent lead.

2.2 FABRICATION

- A. Field document the required configuration and measurements of all new flashings prior to fabrication.
- B. Shop fabricate new sheet metal shapes in 10-foot long sections, or as long as practical.
- C. Form sections square, true and accurate to shape and size, free from distortion and other defects detrimental to appearance or performance.

PART 3 EXECUTION

3.1 COORDINATION

- A. Coordinate sheet metal operations with new membrane and flashing installation specified in Section 07 50 00-Membrane Roofing.

3.2 PREPARATION OF SUBSTRATE

- A. Examine the surface condition of the substrate on which sheet metal is to be installed. Do not proceed with the new installation until unsatisfactory conditions have been corrected in a manner approved by the Architect/Engineer.
- B. Clean the substrate of obstructions and substances detrimental to the work.
- C. Proceeding with the work shall signify the Contractor's acceptance of the substrate being covered by the new sheet metal installation.

3.3 SHEET METAL INSTALLATION

- A. Install new sheet metal fabrications and accessories as shown on the Drawings.
- B. Install new sheet metal fabrications true to lines and levels.
- C. Where work is not otherwise shown or specified, conform to details and requirements set forth in Reference Standards 1.02 C.
- D. Where materials or construction systems are specified with reference to a particular manufacturer (such as caulking and sealants), make installations in strict accord with the approved manufacturer's installation instructions.
- E. Accurately reproduce profiles and bends; make intersections sharp, even and true. Make plain surfaces free from buckles and waves with as few joints as possible. Reinforce work as required for strength and appearance.
- F. Bend metals to minimum radius recommended by manufacturer for thickness used (in general, the radius shall be not less than the thickness of metal).

- G. Provide for proper expansion and contraction. Make joints tight. Conceal nails and other fastenings where possible. Face nailing through exposed surfaces is not permitted. Secure exposed edges to underlying materials with clips or tabs (edge strips).
- H. Make seams in direction of flow.
- I. Hem exposed edges of sheet metal work 1/2 inch.
- J. Provide continuous clips for sheet metal as shown on drawing. Unless otherwise specified, clips shall be not less than 3 inches wide and of the same material and thickness as the sheet metal being installed.
- K. Properly apply caulking and sealants to sheet metal items to permit movement between surfaces and to make entire installation watertight.
- L. Soldering: Roughen smooth surfaces with clean emery cloth or sandpaper; do not use steel wool. Use well-heated irons. Solder slowly, thoroughly heating seams and completely sweating solder through full width with at least 1 inch of solder evenly flowed along seams. Wherever possible, solder in a flat position. Solder seams on slopes greater than 45E a second time. Solder immediately after application of flux; after soldering, immediately neutralize any corrosive flux with 5 percent soda solution and flush with clean water. Soldering of exposed surfaces shall be neatly done. Exposed solder shall be dressed and finished. Soldering shall be employed only to seal or fill seams. Where structural strength is required, do not rely on solder alone but use supplementary mechanical fasteners.

3.4 FLASHING

- A. Flashings
 1. Install flashings required to provide watertight protection.
 2. Carry flashings around corners 4 inches minimum; metal soldered or otherwise joined at the angle is not permitted. Three-way angles shall have the corners soldered watertight.
 3. Flashings installed to be fully restrained shall be nailed at 3-inch centers (max.); otherwise use clips or cleats.
 4. Unless metal manufacturer has more stringent requirements, make up continuous straight runs of sheet metal in 10 ft. minimum lengths. Unless otherwise shown or specified, connect continuous runs together with 3-inch loose-lock expansion joints sealed watertight with sealant. Provide expansion joints at 10 ft. maximum from any external or internal corners.
 5. Flashing at Roof Penetrations and Equipment Supports: Provide flashing for all scuppers, pipes, ducts, and conduits projecting through the roof surface and for equipment supports and similar items supported by or attached to the roof deck. All flashings shall have continuous metal flange at roof level not less than 4 inches wide, and all joints and connections must be soldered and watertight.
 6. Intersection/Wall Terminations: Provide sheet metal closing at all intersections and terminations between walls of adjoining areas. All terminations will be permanent, watertight metal closings of 24 ga. prefinished metal.

3.5 PROTECTION

- A. Protection: Protect dissimilar metals subject to galvanic corrosion from contact with each other and from other surfaces which cause corrosion of metal.

3.6 CLEANUP

- A. Remove trash, debris, and equipment from the jobsite.
- B. Repair damage and remove stains caused by the Work.

END OF SECTION

SECTION 07 92 00

JOINT SEALANTS (ROOFING)

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION

- A. Work Included: Work consists of furnishing all labor, materials and equipment necessary for complete application of all sealant, as shown on Drawings or described in these Specifications, including, but not necessarily limited to, the following:
 - 1. Surface preparation including primers.
 - 2. Joint backup material.

1.3 QUALITY CONTROL

- A. Requirements of Regulatory Agencies: Work under this section shall be subject to all applicable provisions of federal, state and local rules and regulations.
- B. Applicator: Company specializing in application of sealants with five (5) years minimum experience and be acceptable to manufacturer.
- C. Adhesion tests: Prior to any sealant application, perform adhesion tests as directed by sealant manufacturer's technical representative.

1.4 SUBMITTALS

- A. All submittals required under this section will be submitted to the Engineer.
- B. Submittals: Manufacturer's literature, Material Safety Data Sheets and application instructions for each type of material used.

1.5 PRODUCT DELIVERY AND STORAGE

- A. Delivery: Deliver materials to jobsite in sealed, undamaged containers. Identify each container with material name, date of manufacture, and lot number.

1.6 JOB CONDITIONS

- A. Install sealant materials in strict accordance with all safety and weather conditions recommended by manufacturer, product literature, or Material Safety Data Sheets. Do not proceed with installation of sealants under adverse weather conditions, or when temperatures are below or above manufacturer's recommended limitations for installation. Proceed only when forecasted weather conditions are favorable for proper cure and development of high-early bond strength. Wherever joint width is affected by ambient temperature variations,

install elastomeric sealants only when temperatures are in lower third of manufacturer's recommended installation temperature range.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Approved Sealants
 - 1. One-Component polyurethane low-modulus, non-sag sealant: Tremco "Dymonic," Pecora "Dynatrol I," Sonneborn "Sonolastic NP-1," Sika "Sikaflex 1a" or Sikaflex 15 LM."
 - 2. Tape: For concealed metal-to-metal contact, use polyisobutylene type, non-skinning, non-drying tape: 1-inch minimum width, 1/16-inch minimum thickness Presstite "579 Series," PPG" Duribbon 1072, "Tremco "440 TAPE."
- B. Sealant Primer
 - 1. Use primer recommended by manufacturer of sealant used, for each specific application.
- C. Backup Material for All Sealants
 - 1. Sealant Backer Rod: Compressible rod stock of closed cell polyethylene foam, polyethylene jacketed polyurethane foam, butyl rubber foam, neoprene foam or other flexible permanent, durable non-absorptive material as recommended by sealant manufacturer for compatibility with sealant used.
 - 2. Bond Breaker Tape: Polyethylene tape or other bond breaker as recommended by sealant manufacturer to be applied to sealant contact surfaces where bond to the substrate or joint filler must be avoided for proper performance of sealant. Provide self-adhesive tape wherever applicable.
 - 3. Expansion Joint Filler: Closed cell polyethylene foam, as recommended by sealant manufacturer and compatible with sealants used.
- D. Colors: For exposed materials provide color as selected by Owner from manufacturer's standard colors. For concealed materials, provide the natural color which has the best overall performance characteristics.
- E. Compatibility: Before purchase of each required material, confirm its compatibility with each other material it will be exposed to in the joint system.

PART 3 EXECUTION

3.1 PREPARATION

- A. Preparation must be done in a good and workmanlike manner which meets recommendation of manufacturer and the following minimum requirements or standards.

3.2 INSPECTION

- A. Examine surfaces where sealant is to be applied for:
 - 1. Defects or coatings on substrate that will adversely affect adhesion of sealants, or execution or quality of work.
 - 2. Deviations beyond allowable tolerances for installation of sealants.

- B. Do not start Work until unsatisfactory conditions are corrected.
- C. Beginning of installation means acceptance of substrate.

3.3 JOINT DESIGN

- A. Sealant depth is measured at the center (thin) section of sealant bead.
- B. Install sealants to depths and widths as recommended by sealant manufacturer. Also, conform to the following general limitations if not in conflict with sealant manufacturer's recommendations:
 - 1. For normal moving joints not subject to traffic, fill joints to a depth equal to 50 percent of joint width, but neither more than 5/8 inch deep nor less than 1/4 inch deep.
 - 2. Depth of sealant must not exceed width of joint.
 - 3. Sealant joints shall not be less than 1/4 inch in width and 1/4 inch in depth.

3.4 SURFACE PREPARATION

- A. Preparation work shall result in clean surfaces in all areas where sealant is to be adhered. Such surfaces shall be free of any old sealant, contaminants and impurities which are deleterious to bonding or adhesion of primers or sealant.
- B. Clean ferrous metals of all rust, mill scale and coatings by wire brush or grinding. Any equipment used to remove rust shall be free of oil contaminants.
- C. Wire brush masonry joint surfaces, then blow clean with oil-free compressed air.
- D. Wipe all glass and aluminum surfaces clean per manufacturer's recommendations as needed to remove surface contamination.
- E. Apply primer per manufacturer's recommendations. Allow primer to dry prior to applying sealant.
- F. Do not caulk joints until they are clean, dry, and free of dust, loose mortar, old sealant, foreign matter or other bond inhibiting materials, and in compliance with requirements of manufacturer of materials, details shown on Drawings, and specific requirements of other sections of Specifications.

3.5 JOINT BACKING

- A. Use joint backing to control depth of joint to specified thickness.
- B. Select joint backing size to allow for 25 percent compression of backing when inserted into joint.
- C. Where depth of joint will not permit use of joint backing, or wherever recommended by sealant manufacturer, install bond-breaker tape to prevent three-sided adhesion.
- D. Do not leave voids or gaps between ends of joint backing units.

3.6 APPLICATION OF SEALANT

- A. Apply sealants neatly, in a good and workmanlike manner which meets following minimum requirements or standards. Specific instructions of manufacturer must also be followed.
- B. Apply sealant using a gun with proper size nozzles. Use sufficient pressure to fill all voids and joints solid to backup material, with complete wetting of all joint bond surfaces.
- C. Applied sealant shall form a full, smooth, uniform bead, free of ridges, wrinkles, sags, air pockets and embedded impurities.
- D. After joint has been completely filled with sealant, neatly tool joint sealant to eliminate air pockets or voids, and to provide a smooth, slightly concave, neat appearing finish, with sealant surface slightly below adjoining surfaces. Wetting of finished surface will not be allowed.
- E. Where horizontal joints are located between a horizontal surface and vertical surface, fill joint to form a slight cove, so joint will not trap moisture and dirt.
- F. Protect adjacent surfaces and systems from sealant material. Use masking tape where required to prevent contact of sealant with adjoining surfaces which otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.7 CURE AND PROTECTION

- A. Cure sealants in compliance with manufacturer's instructions and recommendations, to obtain high-early bond strength, internal cohesive strength and surface durability. Protect joint sealers during construction period so they will be without deterioration or damage (other than normal wear and weathering) at time of acceptance by Owner.

3.8 JOBSITE CLEANUP

- A. Sealant applicator must remove all excess materials from jobsite.
- B. Leave all surrounding areas where joint sealant has been applied free of excess sealant, debris and foreign substances.

END OF SECTION

SECTION 09 96 53

SILICONE ELASTOMERIC ARCHITECTURAL COATING

PART 1 GENERAL

1.1 SUMMARY

- A. This section includes installation of the architectural elastomeric coating on the exterior concrete masonry with preparation of the substrate.
- B. Related Sections:
 - 1. Section 04 05 01: Masonry Mortar and Grout.
 - 2. Section 07 92 00: Joint Sealants.

1.2 REFERENCES

- A. ASTM D 412 - Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers - Tension.
- B. ASTM D 2240 - Rubber Property - Durometer Hardness.

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer's product data, including surface preparation and application.
- B. Color Samples submit manufacturer's color samples.
- C. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
- D. Warranty: Submit manufacturer's standard warranty.

1.4 QUALITY ASSURANCE

- A. Mock-Ups:
 - 1. Prepare field mock-up of coating for each type of surface using same materials, tools, equipment, and procedures intended for actual surface preparation and application under actual use and environmental conditions.
 - 2. Verify effectiveness of surface preparation.
 - 3. Verify performance of coating.
 - 4. Verify coating adhesion to substrate as specified under Field Quality Control in this section.
 - 5. Require attendance of Contractor, Architect, applicator, and manufacturer's representative to observe preparation of mock-ups and to witness adhesion test.
 - 6. Obtain Architect's approval of mock-ups.
 - 7. Retain mock-ups to establish intended standards by which coating will be judged.
- B. Pre-application Meeting: Convene a pre-application meeting two [2] weeks or as required by architect, owners agent or consultant before start of application of coating. Require attendance

of parties directly affecting work of this section, including Contractor, Architect, applicator, and manufacturer's representative. Review examination, surface preparation, application, field quality control, cleaning, protection, and coordination with other work.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying:
 - 1. Product name.
 - 2. Manufacturer.
 - 3. Color.
 - 4. Batch or lot number.
 - 5. Date of manufacture.
 - 6. Use-before date.
- B. Storage:
 - 1. Store materials in a clean, dry area indoors in accordance with manufacturer's instructions.
 - 2. Store materials within temperature range in accordance with manufacturer's instructions.
 - 3. Keep containers sealed until ready for use.
 - 4. Do not use materials after manufacturer's use-before date.
- C. Handling: Protect materials from damage and contamination during handling and application.

1.6 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply coating to surfaces that are wet, damp, or contain frost.
- B. Do not apply coating when air or surface temperature is below 50° degrees F or when relative humidity is below 20 percent.
- C. Do not spray coating in winds above 15 mph.
- D. Ensure a minimum of 2 hours of adequate temperature and humidity remain before start of nightfall or inclement weather, before applying coating.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Momentive Performance Materials, 260 Hudson River Road Waterford, NY 12188. Web Site www.momentive.com.

2.2 SILICONE ELASTOMERIC ARCHITECTURAL COATING

- A. Coating: SilShield SEC2400 Silicone Elastomeric Architectural Coating.
- B. Description: One-component, elastomeric, silicone, high-solids, architectural coating. VOC exempt solvent. UV resistant.
- C. Properties, As Supplied:
 - 1. Density, WPSTM P 14: 10.45 pounds per gallon.

2. Solids Content, By Volume, WPSTM C 19: 66 percent.
 3. Solids Content, By Weight, WPSTM C 19: 72 to 81 percent.
 4. Tack-Free Time, WPSTM E 86: 2 to 4 hours.
 5. Skin-Over Time: 30 minutes.
 6. Viscosity, WPSTM C 560: 9,000 centipoise.
 7. Volatile Organic Content (VOC), EPA Method 24: 70 g/L.
- D. Properties, As Cured:
1. Tensile Strength, ASTM D 412: 200 psi.
 2. Elongation, ASTM D 412: 400 percent.
 3. Peel Strength, WPSTM C 628: 27 pounds per inch.
 4. Hardness, Shore A, ASTM D 2240: 32.
- E. Color: Approved by Owner.
- F. Primer: Compatible with surfaces and coating. Approved by manufacturer. Most SilShield applications do not require the use of a primer. Verify coating adhesion to substrate as specified under Field Quality Control.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to receive coating. Notify Architect/Consultant or owner's representative if conditions are not acceptable. Do not begin surface preparation or application until unacceptable conditions have been corrected.

3.2 SURFACE PREPARATION

- A. Prepare surfaces in accordance with manufacturer's instructions.
- B. Remove dirt, dust, oil, grease, rust, mildew, chalk, efflorescence, concrete laitance, concrete form release agents, concrete curing compounds, loose particles, other bond breaking contaminants, and unsound materials.
1. Solvents shall not be used on concrete. Concrete must be free of release agents, curing compounds, or other adhesion inhibiting contaminants.
 2. Media-blast surface of concrete masonry using boiler slag/coal slag or Architect/Engineer approved equal. Take precautions during blasting as to minimize damage to concrete masonry substrate. Protect adjacent surfaces, including tile banding, from media-blasting.
 3. Mock-up of surface preparation, including sandblasting, to be performed on a 10 foot by 10 foot area prior to commencement of work. Mock-up to be reviewed and approved by Architect.
- C. Allow concrete and mortar to cure for a minimum of 30 days before coating.
- D. Fill cracks and holes with approved patching materials and sand smooth.
1. All cracks greater than hairline width, approximately 1/ 32 inch, must be ground out and pointed with mortar. See specification section 04 05 01.
- E. Repair and stabilize structural cracks with approved repair materials.

- F. Protect surrounding areas and surfaces not intended to be coated from damage during surface preparation and application.
 - 1. Install joint sealants prior to installation of elastomeric coating.
 - 2. Misapplied uncured or partially cured coating on non-porous surfaces shall be removed by wiping with a dry cloth or cloth wet with mineral spirits followed by a dry cloth. Cured coating may be removed from nonporous surfaces such as glass or metal by razor scraping. Removal from porous surfaces such as stone, concrete or wood should be attempted as described above for nonporous surfaces. It may be necessary to abrade, sandblast or sand the cleaned porous surface to remove all traces of stain. Plants and animal life should be removed from exposure or provided with positive protection from overspray or misapplication of coating.
 - 3. Removal of misapplied coatings is the responsibility of the applicator.
 - 4. After the coating is applied, the contractor shall remove all masking and other protection and clean up any remaining defacement caused by this work.

3.3 APPLICATION

- A. Apply uniform, pinhole-free coating in two (2) separate coats at spreading rate required to achieve a total dry film thickness of 0.008 to 0.010 inch (8 to 10 mils). Apply coating in accordance with manufacturer's instructions at locations indicated on the drawings.
 - 1. Each application should be applied at a wet thickness of 0.075 inches (7.5 mils WFT) per coat. On a smooth surface with an application rate of 100 square foot per gallon per coat. Wet coating thickness may be estimated by using a wet film thickness gauge. Square foot application rates are theoretical and are for estimation purposes only. A mockup must be applied to determine the actual square rate needed to provide a pinhole free film at the recommended dry film thickness.
 - 2. The second coat may be applied when the first coat is tack free to the touch. A tack free condition will usually take at least one (1) hour at 70-80 ° F.; cooler temperatures may require more time. Full curing will usually take 7-10 days and can be verified by absence of solvent odor.
- B. Ensure surfaces to receive coating are clean, dry, structurally sound, and free of frost and frozen materials. Application at temperatures below 50° F should be done with caution due to the possibility of dew or frost on the surface and long drying time.
- C. Do not dilute coating.
- D. Keep containers closed when not in use to avoid contamination.
- E. Apply primer, if required, on wood and metallic surfaces in accordance with manufacturer's instructions. Allow primer to dry before applying coating.
- F. Ensure silicone sealants to be coated are fully cured and clean.
- G. Avoid over spray of coating. Remove over spray and misapplied coating immediately and before it has cured in accordance with manufacturer's instructions. Repair or replace surfaces damaged by overspray or misapplied coating as determined by Architect.

3.4 FIELD QUALITY CONTROL

- A. Verify total dry film thickness of coating is as specified using dry film gauge. Coating thickness may be verified by measuring the thickness of the cured coating piece with a micrometer.
- B. Verify coating adhesion to substrate following full cure. Cut small X in coating down to substrate.
- C. Start at crossover point of X and lift an edge of coating with sharp blade until it can be held with fingertips. It should not be possible to peel coating from surface. Good adhesion will be evidenced by breaking of coating film. Recoat adhesion test areas.
- D. Check coating for film characteristics or defects that would adversely affect performance or appearance.
- E. Correct nonconforming work.

3.5 CLEANING

- A. Remove temporary coverings and protection of surrounding areas and surfaces.

3.6 PROTECTION

- A. Protect applied coating from rain or damage until fully cured.

END OF SECTION