

**UNIVERSITY OF COLORADO,
COLORADO SPRINGS**
Colorado Springs, Colorado



Replace Roof, Columbine Hall
Project #2019-106M22

PROJECT MANUAL
BID DOCUMENTS
February 22, 2023

Hall Architects

1935 Dominion Way, Suite 202
Colorado Springs, Colorado 80918
(719) 277-7300

Use or reproduction of this document, in whole or in part, with or without the complete contract documents and without Stephen Hall, Architect's written consent is in violation of common law, copyright's, statutory, and other reserved rights.

BID DOCUMENTS SPECIFICATIONS

TABLE OF CONTENTS

DIVISION 0 – Contract Forms & General Conditions

BIDDING REQUIREMENTS

Advertisement for Bids	
Information for Bidders SBP 6.12	07/2022
Bid Form SBP-6.13	07/2022
Bid Alternate Form SBP-6.131	07/2022
Bid Bond SBP-6.14	07/2022

CONTRACT FORMS & EXHIBITS

Notice of Award SBP-6.15	07/2022
Contractor's Agreement SC-6.21	07/2022
Performance Bond SC-6.22	07/2022
Labor and Material Payment Bond SC-6.221	07/2022
Apprenticeship Utilization Certification SBP-6.17	07/2021
Direct Labor Burden Calculation SBP-6.18	07/2022
Notice to Proceed SBP-6.26	08/2022
Contractor's App. and Certificate for Payment SBP-7.2	02/2008
Change Order Bulletin SC-6.311	01/2022
Change Order Proposal SC-6.312	07/2022
Change Order SC-6.31	07/2022
Emergency Field Change Order SC-6.31E	07/2010
Pre-Acceptance Checklist SBP-05	07/2018
Notice of Partial Substantial Completion SBP-071	07/2012
Notice of Substantial Completion SBP-07	07/2012
Notice of Approval of Occupancy/Use SBP-01	07/2022
Notice of Partial Final Acceptance SBP-6.271	09/2006
Notice of Final Acceptance SBP-6.27	09/2006
Notice of Partial Contractor's Settlement SBP-7.31	07/2010
Notice of Contractor's Settlement SBP-7.3	07/2010
OSA Five Most Costly Goods Form	07/2022
Contractor Application for Exemption Certificate DR 0172	

CONDITIONS OF THE CONTRACT

General Conditions of the Contract SC-6.23	07/2022
Supplementary General Conditions – Federal Provisions SC-SGC	07/2022
SLFRF Terms & Conditions	07/2022
Prevailing Wage Rates	12/2022
Colorado Apprentice/Journeymen Training	01/2023

ADDITIONAL INFORMATION

00 31 26 Existing Hazardous Material Information

DRAWINGS

Sheets as listed in the "Drawing Index" on Construction Drawings Cover Sheet

DIVISION 1 – General Requirements

01 10 00	Summary of Work
01 23 00	Alternates
01 26 00	Contract Modification Procedures

01 29 00	Payment Procedures
01 31 00	Project Management and Coordination
01 32 13	Schedules and Reports
01 33 00	Submittal Procedures
01 40 00	Quality Requirements
01 50 00	Temporary Facilities and Controls
01 55 00	Site Access Staging and Phasing
01 60 00	Product Requirements
01 70 00	Execution Requirements
01 73 10	Cutting and Patching
01 77 00	Closeout Procedures

DIVISION 2 – Existing Conditions

02 41 19	Selective Demolition
----------	----------------------

DIVISION 5 – Metals

05 50 00	Metal Fabrications
----------	--------------------

DIVISION 6 – Wood and Plastics

06 10 53	Miscellaneous Rough Carpentry
----------	-------------------------------

DIVISION 7 – Thermal and Moisture Protection

07 54 23	TPO Roofing
07 62 00	Sheet Metal Flashing and Trim
07 71 29	Manufactured Roof Expansion Joints
07 92 00	Joint Sealants

DIVISION 9 – Finishes

09 90 00	Painting
----------	----------

DIVISION 26 – Electrical

26 41 13	Lightning Protection
----------	----------------------



ADVERTISEMENT FOR BIDS
Design/Bid/Build
State of Colorado
University of Colorado Colorado Springs
Notice Number:

Project No: 2019-106M22
Project Title: Replace Roof, Columbine Hall
Estimated Construction Cost: **\$1,185,662**

Settlement Notice

For all projects with a total dollar value above \$150,000 Notice of Final Settlement is required by C.R.S. §38-26-107(1). Final Settlement, if required, will be advertised in the same location as the original solicitation.

Project Description

Remove and replace roof on Columbine Hall, University of Colorado Colorado Springs. Project consists of removing 29,850 sqft roof and replacing with TPO membrane roof assembly. Work also includes replacing roof flashing and associated roofing accessories, as well as a new roof access ladder.

Scope of Services

Project consists of demolition of existing 29,850 square foot SBS mod cap roofing and replacing with new TPO membrane roof assembly. Work also includes replacing roof flashing and associated roofing accessories, as well as a new roof access ladder.

Minimum Requirements

Notice is hereby given to all interested parties that all firms will be required to meet all minimum requirements to be considered for this project. To be considered as qualified, interested firms shall have, as a minimum:

1. Provided General Contracting services within the last three (3) years for at least two (2) projects each in excess of \$ 850,000 (hard costs), utilizing the expertise present in their Colorado Office; and
2. Demonstrated specific General Contracting experience in projects of similar scope and complexity; and

3. Demonstrated bonding capability up to \$ 850,000 for an individual project coincidentally with current and anticipated workloads; provide letter from surety that affirms this capacity.

4) Per C.R.S. §24-92-115 unless prohibited by applicable federal law, contract for any public project in the amount of one million dollars or more, that does not receive federal money, in the amount of one million dollars or more shall require the general contractor to which the contract is awarded to submit, at the time the mechanical, electrical, or plumbing subcontractor is put under contract, documentation that identifies the contractors or subcontractors that will be used for all mechanical, sheet metal, fire suppression, sprinkler fitting, electrical, and plumbing work required on the project and certifies that all firms identified participate in apprenticeship programs registered with the United States department of labor's employment and training administration or state apprenticeship councils recognized by the United States department of labor and have a proven record of graduating a minimum of 15% of its apprentices for at least three of the past five years.

5) Per C.R.S. §24-92-Part 2, a public construction project in the amount of five hundred thousand dollars or more shall be subject to the State prevailing wage rate, of the regular, holiday, and overtime wages paid and the general prevailing payments on behalf of employees to lawful welfare, pension, vacation, apprentice training, and educational funds in the State, for each employee needed to execute the contract. Payments to the funds must constitute an ordinary business expense deduction for federal income tax purposes by contractors and subcontractors. Contractors are required to pay their employees at weekly intervals and shall comply with the enforcement provisions of C.R.S. §24-92-209. Contractors awarded a project of this size will be required to utilize the LCPTTracker cloud-based labor compliance and certified payroll application.

Firms meeting the minimum requirements may obtain the bidding documents on the website accompanying this advertisement.

[Planning, Design, and Construction \(uccs.edu\)](http://uccs.edu)

Other Information

Preference shall be given to Colorado resident bidders and for Colorado labor, as provided by law.

Per C.R.S. §24-105-201 If the construction value is \$50,000 or greater a Bid Bond and Power of Attorney or Proposal Guaranty is required in an amount not less than 5% of the total Bid.

Pre-Bid Meeting

A mandatory Pre-Bid Meeting will be held at:

Address: **1420 Austin Bluffs Pwky, Columbine Hall**

Room: **Main Lobby**

Date/Time: **March 21, 2023, at 1:00 PM**

Schedule/Submission Details

1. The schedule of events for the AFB process and an outline of the schedule for the balance of the project is as follows:

Advertisement	<u>March 1, 2023</u>
Mandatory Pre-Bid Conference and Tour	<u>March 21, 2023</u>
Date Email Questions Due	<u>March 27, 2023</u>
Date Email Answers Issued	<u>April 3, 2023</u>
Sealed Bids Due/Public Bid Opening	<u>April 10, 2023</u>
Negotiation of General Contractor Contract	<u>Week of April 13, 2023</u>
Contract Approval (projected)	<u>April 17, 2023</u>
Anticipated General Contractor Start	<u>April 24, 2023</u>
Anticipated Construction Start/Finish	<u>TBD</u>

2. one (1) electronic copy of the sealed bid are due *April 10, 2023* and shall be received no later than 1:00 PM (MD/ST), and shall be submitted/accepted via *Email*, at the following address:

Email: Submit@uccs.edu

Comments: **Late sealed bids will be rejected without consideration. The University of Colorado Colorado Springs and the State of Colorado assume no responsibility for costs related to the preparation of submittals.**

3. The above schedule is tentative. Responding firms shall be notified of revisions in a timely manner by email or posted on ColoradoVSS website. Respondents may elect to verify times and dates by email, but no earlier than 36 hours before the scheduled date and time.

Point of Contact/Clarification

Name: Don Wright
Agency: University of Colorado Colorado Springs
Phone: 719-255-3398
Fax: N/A
Email: submit@uccs.edu

APPENDICES:

Appendix A: Information for Bidders (SBP-6.12)

Appendix B: Bid Form (SBP-6.13)

Appendix C: Direct Labor Burden Calculation (SBP-6.18)

Appendix D: Applicable Prevailing Wage and Apprenticeship and Fringe Rates

Appendix E: Apprenticeship Utilization Certifications (SBP-6.17)



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

INFORMATION FOR BIDDERS

Institution or Agency: University of Colorado Colorado Springs
Project No./Name: 2019-106M22 Replace Roof, Columbine Hall

1. **BID FORM:** Bidders are required to use the Bid form attached to the bidding documents. Each bidder is required to bid on all alternates and indicate the time from the date of the Notice to Proceed to Substantial Completion in calendar days, and in addition, the bidder is required to indicate the period of time to finally complete the project from Substantial Completion to Final Acceptance, also in calendar days. Bids indicating times for Substantial Completion and Final Acceptance in excess of the number of days indicated in the Advertisement for Bids for completion of the entire Project may be found non-responsive and may be rejected. The bid shall not be modified or conditioned in any manner. Bids shall be submitted in sealed envelopes bearing the address and information shown below. If a bid is submitted by mail, this aforementioned sealed envelope should be enclosed in an outer envelope and sent to the following addressee:

INSERT NAME OF AGENCY AND ADDRESS WHERE BID SHOULD BE DELIVERED

The outside of the sealed inner envelope should bear the following information:

Project #
Project Name
Name and Address of Bidder
Date of Opening
Time of Opening

2. **INCONSISTENCIES AND OMISSIONS:** Bidders may request clarification of any seeming inconsistencies, or matters seeming to require explanation, in the bidding documents at least three (3) business days prior to the time set for the opening of Bids. Decisions of major importance on such matters will be issued in the form of addendum.
3. **APPLICABLE LAWS AND REGULATIONS:** The bidder's attention is called to the fact that all work under this Contract shall comply with the provisions of all state and local laws, approved state building codes, ordinances and regulations which might in any manner affect the work to be done or those to be employed in or about the work. Attention is also called to the fact that the use of labor for work shall be governed by the provisions of Colorado law which are hereinafter set forth in Articles 27 and 52E of the GENERAL CONDITIONS. This includes the requirements for apprenticeship and prevailing wage on Public Projects.
4. **BID SECURITY:** A bid security of not less than 5% of the bid price is required when the price is estimated to be \$50,000 or more. The security shall be a bond by a surety company, the equivalent in cash, or otherwise supplied in a form satisfactory for the State. Noncompliance requires the bid to be rejected as nonresponsive.
- 5.
6. **TAXES:** The bidder's attention is called to the fact that the Bid submitted shall exclude all applicable federal excise or manufacturers' taxes and all state sales and use taxes as hereinafter set forth in Article 9C of the GENERAL CONDITIONS.
7. **OR EQUAL:** The words "OR EQUAL" are applicable to all specifications and drawings relating to materials or equipment specified. Any material or equipment that will fully perform the duties specified, will be considered "equal", provided the bid submits proof that such material or equipment is of equivalent substance and function and is approved, in writing. Requests for the approval of "or equal" shall be made in writing at least five (5) business days prior to bid opening. During the bidding period, all approvals shall be issued by the Architect/Engineer in the form of addenda at least two (2) business days prior to the bid opening date.

8. **ADDENDA:** Owner/architect initiated addenda shall not be issued later than two (2) business days prior to bid opening date. All addenda shall become part of the Contract Documents and receipt must be acknowledged on the Bid form.
9. **METHOD OF AWARD - LOWEST RESPONSIBLE BIDDER:** If the bidding documents for this project require alternate prices, additive and/or deductible alternates shall be listed on the alternates bid form provided by the Principal Representative. Bidders should note the Method of Award is applicable to this Bid as stated below.
 - A. **DEDUCTIBLE ALTERNATES:** The lowest responsible Bid, taking into account the Colorado resident bidder preference provision of Colorado law, will be determined by and the contract will be awarded on the base bid combined with deductible alternates, deducted in numerical order in which they are listed in the alternates bid form provided by the Principal Representative. The subtraction of alternates shall result in a sum total within available funds. If this bid exceeds such amount, the right is reserved to reject all bids. An equal number of alternates shall be subtracted from the base bid of each bidder within funds available for purposes of determining the lowest responsible bidder.
 - B. **ADDITIVE ALTERNATES:** The lowest responsible Bid, taking into account the Colorado resident bidder preference provision of Colorado law, will be determined by and the contract will be awarded on the base bid plus all additive alternates added in the numerical order in which they are listed in the alternates bid form provided by the Principal Representative. The addition of alternates shall result in a sum total within available funds. If this bid exceeds such amount, the right is reserved to reject all bids. An equal number of alternates shall be added to the base bid of each bidder within funds available for purposes of determining the lowest responsible bidder.
 - C. **DEDUCTIBLE AND ADDITIVE ALTERNATES:** Additive alternates will not be used if deductible alternates are used and deductible alternates will not be used if additive alternates are used.
10. **NOTICE OF CONTRACTOR'S SETTLEMENT** – Agencies/institutions must indicate in the initial Solicitation (Advertisement for Bids, Documented Quotes, or Requests for Proposals) whether settlement will be advertised in newspapers or electronic media.



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

BID

Institution/Agency: University of Colorado Colorado Springs

Project No./Name: 2019-106M22 Replace Roof, Columbine Hall

Bidder Acknowledges Receipt of Addenda Numbers:	
Bidder Anticipates Services outside the United States or Colorado:*	No <input type="checkbox"/> Yes <input type="checkbox"/> If Yes see 3A below
Bidder will comply with 80% Colorado Labor on project above \$500,000:	Yes <input type="checkbox"/> No <input type="checkbox"/> If No see 3B below
Bidder is a Service-Disabled Veteran Owned Small Business:*	No <input type="checkbox"/> Yes <input type="checkbox"/> If Yes see 3C below

Base Bid \$ _____

(Refer to Bid Alternate Form SC-6.13.1 Attached, If Applicable)

Bidder's Time of Completion

a. Time Period from Notice to Proceed to Substantial Completion: _____

b. Time Period from Substantial Completion to Final Acceptance: _____

c. Total Time of Completion of Entire Project (a + b): _____

1. **BID:** Pursuant to the advertisement by the State of Colorado dated _____ the undersigned bidder hereby proposes to furnish all the labor and materials and to perform all the work required for the complete and prompt execution of everything described or shown in or reasonably implied from the Bidding Documents, including the Drawings and Specifications, for the work and for the base bid indicated above. Bidders should include all taxes that are applicable.
2. **EXAMINATION OF DOCUMENTS AND SITE:** The bidder has carefully examined the Bidding Documents, including the Drawings and Specifications, and has examined the site of the Work, so as to make certain of the conditions at the site and to gain a clear understanding of the work to be done.
3. **PARTIES INTERESTED IN BID:** The bidder hereby certifies that the only persons or parties interested in this Bid are those named herein, and that no other bidder or prospective bidder has given any information concerning this Bid.
 - A. If the bidder anticipates services under the contract or any subcontracts will be performed outside the United States or Colorado, the bidder shall provide in a written statement which must include, but need not be limited to the type of services that will be performed at a location outside the United States or Colorado and the reason why it is necessary or advantageous to go outside the United States or Colorado to perform such services. (Does not apply to any project that receives federal moneys) *
 - B. For State Public Works projects per C.R.S. 8-17-101, Colorado labor shall be employed to perform at least 80% of the work. Colorado Labor means any person who is a resident of the state of Colorado at the time of the Public Works project. Bidders indicating that their bid proposal will not comply with the 80% Colorado Labor requirement are required to submit written justification along with the bid submission. (Does not apply to any project that receives federal moneys) *
 - C. A Service-Disabled Veteran Owned Small Business (SDVOSB) per C.R.S. 24-103-211, means a business that is incorporated or organized in Colorado or maintains a place of business or has an office in Colorado and is officially registered and verified by the Center for Veteran Enterprise within the U.S. Department of Veteran Affairs. Attach proof of certification along with the bid submission. *
 - D. Projects estimated to be \$1 million or more that do not receive federal funds are required to comply with the State Apprenticeship Utilization requirements C.R.S. 24-92-115
 - E. Projects estimated to be \$500,000 or more that do not receive federal funds are required to comply with the State Prevailing Wage requirements C.R.S. 24-92-201 through 210.
4. **BID GUARANTEE:** This Bid is accompanied by the required Bid Guarantee. Per C.R.S. §24-105-201 If the construction value is \$50,000 or greater a Bid Bond and Power of Attorney or Proposal Guaranty is required in an amount not less than 5% of the total Bid. You are authorized to hold said Bid Guarantee for a period of not more than thirty (30) days after the opening of the Bids for the work above indicated, unless the undersigned bidder is awarded the Contract, within said period, in which event the Office of the State Architect, may retain said Bid Guarantee, until the undersigned bidder

has executed the required Agreement and furnished the required Performance Bond, Labor and Material Payment Bond, and Insurance Policy.

5. **TIME OF COMPLETION:** The bidder agrees to achieve Substantial Completion of the Project from the date of the Notice to Proceed within the number of calendar days entered above, and in addition, further agrees that the period between Substantial Completion and Final Acceptance of the Project will not exceed the number of calendar days noted above. If awarded the Work, the bidder agrees to begin performance within ten (10) days from the date of the Notice to Proceed subject to Article 46, Time of Completion and Liquidated Damages of the General Conditions of the Contract, and agrees to prosecute the Work with due diligence to completion. The bidder represents that Article 7D of the Contractor's Agreement (SC-6.21) has been reviewed to determine the type and amount of any liquidated damages that may be specified for this contract.
6. **EXECUTION OF DOCUMENTS:** The bidder understands that if this Bid is accepted, bidder must execute the required Agreement and furnish the required Performance Bond, Labor and Material Payment Bond, Insurance Policy and Certificates of Insurance within ten (10) days from the date of the Notice of Award, and that the bidder will be required to sign to acknowledge and accept the Contract Documents, including the Drawings and Specifications.
7. **ALTERNATES:** Refer to the Information for Bidders (SC-6.12) for Method of Award for Alternates and use State Form SBP-6.13.1 Bid Alternates form to be submitted with this bid form if alternates are requested by the institution/agency in the solicitation documents.
8. **Submit wage rates** (direct labor costs) for prime contractor and subcontractor as requested by the institution/agency in the solicitation documents.
9. **The right is reserved to waive informalities and to reject any and all Bids.**

**Does not apply to projects for Institutions of Higher Education that have opted out of the State Procurement Code.*

SIGNATURES: If the Bid is being submitted by a Corporation, the Bid shall be signed by an officer, i.e., President or Vice-President. If a sole proprietorship or a partnership is submitting the Bid, the Bid shall so indicate and be properly signed.

Dated this _____ Day of _____, 20____

THE BIDDER:

Company Name

Address (including city, state and zip)

Phone number:

Name (Print) and Title

Signature



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM

COLORADO

BID ALTERNATES FORM

Institution/Agency: REGENTS OF THE UNIVERSITY OF COLORADO, a body corporate, acting by and through the UNIVERSITY OF COLORADO, COLORADO SPRINGS
Project No./Name: 2019-106M22 / Replace Roof, Columbine Hall

Additive alternates will not be used if deductible alternates are used and deductible alternates will not be used if additive alternates are used.

Additive Alternates (If Applicable)

Refer to specification section _____ for descriptions of add alternates. If the add alternates are accepted, the base bid would be modified by the amount entered by the bidder.

A.A. No. 1	<u>Replace Roof Area E</u>	Add \$	_____
A.A. No. 2	<u>Replace Roof Area C</u>	Add \$	_____
A.A. No. 3	_____	Add \$	_____
A.A. No. 4	_____	Add \$	_____
A.A. No. 5	_____	Add \$	_____
A.A. No. 6	_____	Add \$	_____
A.A. No. 7	_____	Add \$	_____
A.A. No. 8	_____	Add \$	_____
A.A. No. 9	_____	Add \$	_____
A.A. No. 10	_____	Add \$	_____

Deductive Alternates (If Applicable)

Refer to specification section _____ for descriptions of the deductive alternates. If the deductive alternates are accepted, the base bid would be modified by the amount entered by the bidder.

D.A. No. 1	_____	Deduct \$	_____
D.A. No. 2	_____	Deduct \$	_____
D.A. No. 3	_____	Deduct \$	_____
D.A. No. 4	_____	Deduct \$	_____
D.A. No. 5	_____	Deduct \$	_____
D.A. No. 6	_____	Deduct \$	_____
D.A. No. 7	_____	Deduct \$	_____
D.A. No. 8	_____	Deduct \$	_____
D.A. No. 9	_____	Deduct \$	_____
D.A. No. 10	_____	Deduct \$	_____

THE BIDDER:

Company Name

Signature

Date



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM

COLORADO BID BOND

Institution/Agency: REGENTS OF THE UNIVERSITY OF COLORADO, a body corporate, acting by and through the UNIVERSITY OF COLORADO, COLORADO SPRINGS
Project No./Name: 2019-106M22 / Replace Roof, Columbine Hall

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, _____ hereinafter called the "PRINCIPAL", is submitting a PROPOSAL for the above described project, to the STATE OF COLORADO, hereinafter called the "OBLIGEE".

WHEREAS, the Advertisement for Bids has required as a condition of receiving the Proposals that the Principal submit with the PROPOSAL GUARANTY in an amount not less than five per cent (5%) of the Proposal, which sum it is specifically agreed is to be forfeited as Liquidated Damages in the event that the Principal defaults in his obligation as hereinafter specified, and, in pursuance of which Requirement, this Bid is made, executed and delivered.

NOW THEREFORE, the Principal and _____ a corporation of the State of _____, duly authorized to transact business in Colorado, as Surety, are held and firmly bound unto the Obligee, in the sum of five per cent (5%) 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 to the Obligee, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

FURTHER THAT, a condition of the obligation that the Principal shall maintain his Proposal in full force and effect for thirty (30) days after the opening of the proposals for the project, or, if the Principal's Proposal is accepted, the Principal shall, within the prescribed time, execute the required Agreement, furnish the required Performance Bond, Labor and Material Payment Bond, Insurance Policy, and Certificates of Insurance, then this obligation shall be null and void, otherwise it shall remain in full force and effect, and subject to forfeiture upon demand as Liquidated Damages.

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

(Corporate Seal)

THE PRINCIPAL

ATTEST

Company Name

Secretary

Address (including city, state and zip)

Phone number:

Name (Print)

Signature

Name (Print) and Title

SIGNATURES If the "Principal" is doing business as a Corporation, the Bid Bond shall be signed by an officer, i.e., President or Vice President. The signature of the officer shall be attested to by the Secretary and properly sealed.

If the "Principal" is an individual or a partnership, the Bid Bond shall so indicate and be properly signed.

(Corporate Seal)

THE SURETY

By _____

Secretary

Attorney-in-Fact

THIS BOND MUST BE ACCOMPANIED BY POWER OF ATTORNEY, EFFECTIVELY DATED.

**FAILURE TO PROVIDE A PROPERLY EXECUTED BID BOND WITH A PROPERLY EXECUTED POWER OF ATTORNEY
WILL RESULT IN THE BIDDER'S PROPOSAL BEING DEEMED NON-RESPONSIVE.**



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM

NOTICE OF AWARD

(Design/Bid/Build and Design/Build Lump Sum Agreements)

Date of Notice: _____
Date to be inserted by the Agency/Institution
Agency/Institution: REGENTS OF THE UNIVERSITY OF COLORADO, a body corporate, acting by and through the UNIVERSITY OF COLORADO, COLORADO SPRINGS
Project No./Name: 2019-106M22 / Replace Roof, Columbine Hall

TO: [Legal name of Contractor]

The State of Colorado, represented by the undersigned, has considered the Proposals submitted for the above described work.

Your Proposal, deemed to be in the best interest of the State of Colorado, in the amount of _____ DOLLARS AND NO/100* (\$ _____ *) is hereby accepted, pending final execution of the Agreement.

You **are** required to execute the approved Agreement and to furnish the Performance Bond, Labor and Material Payment Bond, Insurance Policy and Certificates of Insurance, *Apprenticeship Utilization Certification(s) (if applicable)* and Labor Overhead (Direct Labor Burdens) for Work performed by Contractor and major Subcontractors within ten (10) days from the date of this Notice.

If you fail to execute said Agreement and to furnish said Performance Bond, Labor and Material Payment Bond, Insurance Policy, Certificates of Insurance, and Labor Overhead (Direct Labor Burdens) as described above within ten (10) days from the date of this Notice, the State Controller is entitled to retain the amount of the Proposal Guaranty submitted with your Proposal as Liquidated Damages. In this event, the right is reserved to consider all of your rights arising out of the acceptance of your Proposal as abandoned and to award the work covered by your Proposal to another, or to re-advertise the Project, or otherwise dispose thereof.

By _____ Date _____ By _____ Date _____
State Buildings Program Principal Representative
(or Authorized Delegate) (Agency/Institution)

When completely executed, this form is to be sent by **certified mail** to the Contractor by the Principal Representative or delivered by any other means to which the parties agree.

**STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM**



COLORADO

**CONTRACTOR'S AGREEMENT
DESIGN/BID/BUILD (D/B/B)
(STATE FORM SC-6.21)**

STATE AGENCY: REGENTS OF THE UNIVERSITY OF COLORADO, a body corporate,
acting by and through the UNIVERSITY OF COLORADO, COLORADO
SPRINGS

DEPARTMENT ID: XXXX

CONTRACT ID #: Insert CMS Number & Encumbrance Number

PROJECT #: 2019-106M22

PROJECT NAME: Replace Roof, Columbine Hall

VENDOR NAME: Insert Contractor's full Legal Name including "Inc.", "LLC" etc.

**STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM**

**CONTRACTOR'S DESIGN/BID/BUILD AGREEMENT
(STATE FORM SC-6.21)**

TABLE OF CONTENTS... Page
Table of Contents for the entire Agreement is located in THE GENERAL CONDITIONS OF THE CONTRACTOR’S DESIGN/BID/BUILD (D/B/B) AGREEMENT (SC-6.23)

SIGNATURE PAGE.....1
RECITALS:2
1 ARTICLE 1 PERFORMANCE OF THE WORK.....2
2 ARTICLE 2 PROVISIONS OF THE CONTRACT DOCUMENTS.....2
3 ARTICLE 3 TIME OF COMPLETION.....3
4 ARTICLE 4 ESSENTIAL CONDITION3
5 ARTICLE 5 CONTRACT SUM3
6 ARTICLE 6 CONTRACT DOCUMENTS3
7 ARTICLE 7 OPTIONAL PROVISIONS AND ELECTIONS3
 7.1 MODIFICATION OF ARTICLE 2: Execution, Correlation, Intent of Documents, Communication and Cooperation. 4
 7.2 MODIFICATION 1 OF ARTICLE 27: Labor and Wages..... 4
 7.3 MODIFICATION 2 OF ARTICLE 27: Labor and Wages..... 4
 7.4 MODIFICATION OF ARTICLE 39: Non-Binding Dispute Resolution – Facilitated Negotiations..... 4
 7.5 MODIFICATION OF ARTICLE 45: Guarantee Inspections After Completion 4
 7.6 MODIFICATION OF ARTICLE 46: Time of Completion and Liquidated Damages..... 4
8 ARTICLE 8 NOTICE IDENTIFICATION5
EXHIBIT A: CONTRACTORS BID A
EXHIBIT B: PERFORMANCE BOND..... B
EXHIBIT C: LABOR AND MATERIAL PAYMENT BOND C
EXHIBIT D: INSURANCE CERTIFICATE(S)..... D
EXHIBIT E: BUILDING CODE COMPLIANCE POLICY E
EXHIBIT F: STATE SALES AND USE TAX FORM..... F
EXHIBIT G: APPLICABLE PREVAILING WAGE DETERMINATIONS AND APPRENTICESHIP CONTRIBUTION RATES G
EXHIBIT H: APPRENTICESHIP UTILIZATION CERTIFICATIONS..... H
SUPPLEMENTARY GENERAL CONDITIONS: FEDERAL PROVISIONS

SIGNATURE PAGE

THE PARTIES HERETO HAVE EXECUTED THIS CONTRACT

Each person signing this Agreement represents and warrants that the signer is duly authorized to execute this Agreement and to bind the Party authorizing such signature.

*Persons signing for Contractor hereby swear and affirm that they are authorized to act on Contractor's behalf and acknowledge that the State is relying on their representations to that effect. **Principal is not** a recognized title and will not be accepted.

Project Number/Name: Insert OSC Project Number followed by Project Name
 CMS Contract ID No.: Insert CMS Number & Encumbrance Number

<p align="center">CONTRACTOR INSERT-Legal Name of Contractor</p> <hr/> <p align="center">By: Name & Title of Person Signing for Contractor</p> <p align="center">Date: _____</p>	<p align="center">STATE OF COLORADO Jared S. Polis, Governor INSERT-Name of Agency or IHE INSERT-Name & Title of Head of Agency or IHE</p> <hr/> <p align="center">By: Name & Title of Person Signing for Agency or IHE</p> <p align="center">Date: _____</p>
<p align="center">DEPARTMENT OF PERSONNEL & ADMINISTRATION STATE BUILDINGS PROGRAM State Architect (or authorized delegate)</p> <hr/> <p align="center">By: Name & Title of SBP Delegate</p> <p align="center">Date: _____</p>	
<p align="center">In accordance with §24-30-202, C.R.S., this Contract is not valid until signed and dated below by the State Controller (or an authorized delegate) or the Title of IHE CFO per the Fiscal Rules of the individual Institution of Higher Education</p> <p align="center">STATE CONTROLLER Robert Jaros, CPA, MBA, JD</p> <p align="center">By: _____ Name of Agency or IHE Delegate-Please delete if contract will be routed to OSC for approval</p> <p align="center">Effective Date: _____</p>	

**STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM**

**CONTRACTOR'S DESIGN/BID/BUILD (D/B/B) AGREEMENT
(STATE FORM SC-6.21)**

Department ID: Insert Dept. Code Contract ID #: Insert Contract ID Project #: insert Project #

1. PARTIES. THIS AGREEMENT is entered into by and between the STATE OF COLORADO, acting by and through the Insert Department's or IHE's Full Legal Name hereinafter referred to as the Principal Representative, and Insert Contractor's full Legal Name including "Inc.", "LLC" etc. having its offices at Street address, City, State and Zip Code hereinafter referred to as the Contractor.

2. EFFECTIVE DATE AND NOTICE OF NONLIABILITY. This Agreement shall not be effective or enforceable until it is approved and signed by the State Controller or its designee (hereinafter called the "Effective Date"), but shall be effective and enforceable thereafter in accordance with its provisions. The State shall not be bound by any provision of this Contract before the Effective Date, and shall have no obligation to pay Contractor for any Work performed or expense incurred before the Effective Date.

RECITALS:

WHEREAS, the Principal Representative intends to procure Insert Project Name as provided by the State Controller's Office hereinafter called the Project; and

WHEREAS, authority exists in the Law and Funds have been budgeted, appropriated, and otherwise made available, and a sufficient unencumbered balance thereof remains available for payment.

WITNESSETH, that the State of Colorado and the Contractor agree as follows:

1 ARTICLE 1 PERFORMANCE OF THE WORK

The Contractor shall perform all of the Work required for the complete and prompt execution of everything described or shown in, or reasonably implied from the Contract Documents for the above referenced Project.

2 ARTICLE 2 PROVISIONS OF THE CONTRACT DOCUMENTS

The Contractor agrees to perform the Work to the highest industry standards and to the satisfaction of the State of Colorado and its contractor in strict accordance with the provisions of the Contract Documents.

3 ARTICLE 3 TIME OF COMPLETION

The Contractor agrees to Substantially Complete the Project within _____ calendar days from the date of the Notice to Proceed, in addition, the Contractor agrees to finally complete the Project from Substantial Completion to Final Acceptance within _____ calendar days for a total time of completion of the entire Project of _____ calendar days. The Contractor shall perform the Work with due diligence to completion.

4 ARTICLE 4 ESSENTIAL CONDITION

Timely completion of the Project is an essential condition of this Agreement. The Contractor shall be subject to any liquidated damages described in Article 7.6 for failure to satisfactorily complete the Work within the time periods in Article 3 above.

5 ARTICLE 5 CONTRACT SUM

The Contractor shall be paid for the performance of this Agreement, subject to any additions and deductions as provided for in Articles 32, 34 and 35 of The General Conditions of the Construction Contract SC-6.23, the sum of INSERT DOLLAR VALUE WRITTEN IN WORDS DOLLARS AND NO/100 (\$_____).

	Description of Work/Date	Dollar Amount
Base Contract Amount		
Alt. #01		
Alt. #02		
etc.		
etc.		
	Total Contract Sum	\$ -

6 ARTICLE 6 CONTRACT DOCUMENTS

The Contract Documents, as enumerated in Article 1.1 of The General Conditions of the Contractor’s Design/Bid/Build (D/B/B) Agreement SC-6.23, are all essential parts of this Agreement and are fully incorporated herein.

7 ARTICLE 7 OPTIONAL PROVISIONS AND ELECTIONS

The provisions of this Article 7 alter the Articles (The General Conditions of the Contractor’s Design/Bid/Build Agreement SC-6.23) or enlarge upon them as indicated:

The Principal Representative and or the State Buildings Program shall mark boxes and initial where applicable.

7.1 MODIFICATION OF ARTICLE 2: Execution, Correlation, Intent of Documents, Communication and Cooperation.

If the box below is marked, certification of apprenticeship utilization is required for all mechanical, sheet metal, fire suppression, sprinkler fitting, electrical and plumbing work on the project.

_____ Principal Representative initial

7.2 MODIFICATION 1 OF ARTICLE 27: Labor and Wages

If the box is marked, the Federal Davis-Bacon Act shall be applicable to the Project. The minimum wage rates to be paid on the Project shall be furnished by the Principal Representative and included in the Contract Documents.

_____ Principal Representative initial

7.3 MODIFICATION 2 OF ARTICLE 27: Labor and Wages

If the box is marked, the State prevailing wage statute shall be applicable to the Project. The minimum wage rates to be paid on the Project shall be furnished by the Principal Representative and included in the Contract Documents.

_____ Principal Representative initial

7.4 MODIFICATION OF ARTICLE 39: Non-Binding Dispute Resolution – Facilitated Negotiations

If the box is marked, and initialed by the State as noted, the requirement to participate in facilitated negotiations shall be deleted from this Contract. Article 39, Non-Binding Dispute Resolution – Facilitated Negotiations, shall be deleted in its entirety and all references to the right to the same where ever they appear in the contract shall be similarly deleted.

The box may be marked only for projects with an estimated value of less than \$500,000.

_____ Principal Representative initial

7.5 MODIFICATION OF ARTICLE 45: Guarantee Inspections After Completion

If the box below is marked the six month guarantee inspection is not required.

_____ Principal Representative initial

7.6 MODIFICATION OF ARTICLE 46: Time of Completion and Liquidated Damages

If an amount is indicated immediately below, liquidated damages shall be applicable to this Project as, and to, the extent shown below. Where an amount is indicated below, liquidated damages shall be assessed in accordance with and pursuant to the terms of The General Conditions of the Design/Bid/Build Agreement Article 46, Time of Completion And Liquidated Damages, in the amounts and as here indicated. The election of liquidated damages shall limit and control the parties right to damages as the State’s sole and exclusive remedy for delay.

7.6.1 Inability To Use The Project

For the inability to use the Project, for each day after the number of calendar days specified in the Contractor’s bid for the Project and the Agreement for achievement of Substantial Completion, until the day that the Project has achieved Substantial Completion and the Notice of Substantial Completion is issued, the Contractor agrees that an amount equal Insert dollar value written in words Dollars (\$_____.).) shall be assessed against Contractor from amounts due and payable to the Contractor under the Contract, or the Contractor and the Contractor’s Surety shall pay to the Principal Representative such sum for any deficiency, if amounts on account thereof are

deducted from remaining amounts due, but amounts remaining are insufficient to cover the entire assessment.

7.6.2 Damages Related to Extended Closeout

For damages related to or arising from additional administrative, technical, supervisory and professional expenses related to and arising from the extended closeout period, for each day in excess of the number of calendar days specified in the Contractor's bid for the Project and the Agreement to finally complete the Project as defined by the issuance of the Notice of Final Acceptance (after the issuance of the final Notice of Substantial Completion), the Contractor agrees that an amount equal to Insert dollar value written in words Dollars (\$_____). shall be assessed against Contractor from amounts due and payable to the Contractor under the Contract, or the Contractor and the Contractor's Surety shall pay to the Principal Representative such sum for any deficiency, if amounts on account thereof are deducted from remaining amounts due but amounts remaining are insufficient to cover the entire assessment.

8 ARTICLE 8 NOTICE IDENTIFICATION

All Notices pertaining to General Conditions or otherwise required to be given shall be transmitted in writing, to the individuals at the addresses listed below, and shall be deemed duly given when received by the parties at their addresses below or any subsequent persons or addresses provided to the other party in writing.

NOTICE TO PRINCIPAL REPRESENTATIVE:

Insert Name of Individual acting on the PR behalf
Insert Street Address
City, State Zip Code
Insert email address

With copies to State Buildings Program (or Delegate)

Insert Name of Individual acting on OSA/SBP behalf

Insert Street Address
City, State Zip Code
Insert email address

NOTICE TO CONTRACTOR:

Insert Name of Individual acting on the contractor behalf
Insert Street Address
City, State Zip Code
Insert email address

With copies to:

File

**STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM**

**CONTRACTOR'S DESIGN/BID/BUILD AGREEMENT
(STATE FORM SC-6.21)**

EXHIBIT A: CONTRACTORS BID

CONTRACTOR'S BID (Form SBP-6.13)

Bid Alternates (Form SBP-6.131)

Unit Pricing (Form SBP-6.133)

Bid Bond (Form SBP-6.14)

Labor Burden Calculation (Form SBP-6.18)

**STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM**

**CONTRACTOR'S DESIGN/BID/BUILD AGREEMENT
(STATE FORM SC-6.21)**

EXHIBIT B: PERFORMANCE BOND

PERFORMANCE BOND (Form SC-6.22)

**STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM**

**CONTRACTOR'S DESIGN/BID/BUILD AGREEMENT
(STATE FORM SC-6.21)**

EXHIBIT C: LABOR AND MATERIAL PAYMENT BOND

LABOR AND MATERIAL PAYMENT BOND (Form SC-6.221)

**STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM**

**CONTRACTOR'S DESIGN/BID/BUILD AGREEMENT
(STATE FORM SC-6.21)**

EXHIBIT D: INSURANCE CERTIFICATE(S)

INSURANCE CERTIFICATE(S) (attached)

**STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM**

**CONTRACTOR'S DESIGN/BID/BUILD AGREEMENT
(STATE FORM SC-6.21)**

EXHIBIT E: BUILDING CODE COMPLIANCE POLICY

**BUILDING CODE COMPLIANCE POLICY: COORDINATION OF APPROVED BUILDING CODES, PLAN REVIEWS
AND BUILDING INSPECTIONS (as applicable)**

Refer to the Office of the State Architect State Buildings Building Codes Webpage *Code Compliance Policy* dated and Exhibit A of the *Code Compliance Policy* dated including the Amendment to Chapter 1 of the International Building Code

**STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM**

**CONTRACTOR'S DESIGN/BID/BUILD AGREEMENT
(STATE FORM SC-6.21)**

EXHIBIT F: STATE SALES AND USE TAX FORM

STATE SALES AND USE TAX FORM

**STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM**

**CONTRACTOR'S DESIGN/BID/BUILD AGREEMENT
(STATE FORM SC-6.21)**

**EXHIBIT G: APPLICABLE PREVAILING WAGE DETERMINATIONS AND APPRENTICESHIP
CONTRIBUTION RATES**

APPLICABLE PREVAILING WAGE DETERMINATIONS AND APPRENTICESHIP CONTRIBUTION RATES

**STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM**

**CONTRACTOR'S DESIGN/BID/BUILD AGREEMENT
(STATE FORM SC-6.21)**

EXHIBIT H: APPRENTICESHIP UTILIZATION CERTIFICATIONS

APPRENTICESHIP UTILIZATION CERTIFICATIONS

**STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM**

**CONTRACTOR'S DESIGN/BID/BUILD AGREEMENT
(STATE FORM SC-6.21)**

SUPPLEMENTARY GENERAL CONDITIONS: FEDERAL PROVISIONS

Supplementary General Conditions Federal Provisions

SLFRF Federal Funds: Contractor Terms and Conditions Certification

SLFRF Federal Funds: Contractor Terms and Conditions



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM

COLORADO PERFORMANCE BOND

Institution/Agency: REGENTS OF THE UNIVERSITY OF COLORADO, a body corporate, acting by and through the UNIVERSITY OF COLORADO, COLORADO SPRINGS
Project No./Name: 2019-106M22 / Replace Roof, Columbine Hall

BONDING COMPANY: DO NOT MAKE ANY CHANGES TO THE LANGUAGE IN THIS BOND.

KNOW ALL PERSONS BY THESE PRESENTS:

That the Contractor

as Principal and hereinafter called "Principal,"

and

as Surety and hereinafter called "Surety," a corporation organized and existing under the laws of

_____ are held and firmly bound unto **the STATE OF COLORADO** acting by and through the Institution/Agency identified above hereinafter called the "Principal Representative", in the sum of:

_____ Dollars (\$ _____)
(Written Amount) (Numerical Amount)

for the payment whereof the Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly, by these presents.

WHEREAS, the Principal and the State of Colorado acting by and through the Principal Representative have entered into a certain Contract, hereinafter called "Contract," dated

_____ for the construction of a PROJECT
(Leave blank, to be completed by Institution/Agency)

identified above, which Contract is hereby by reference made a part hereof;

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION, is such that, if the Principal shall promptly, fully and faithfully perform all the undertakings, covenants, terms, conditions and agreements of said Contract during the original term of said Contract any extensions thereof that may be granted by the Principal Representative with or without notice to the Surety, and during the life of any guaranty required under the Contract, and shall also well and truly perform and fulfill all undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said Contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

AND THE SAID SURETY, for value received hereby stipulates and agrees that whenever the Principal shall be, and declared by the Principal Representative to be in default under said Contract, the State of Colorado having performed its obligations thereunder, the Surety may promptly remedy the default or shall promptly (1) Complete the Contract in accordance with its terms and conditions, or (2) Obtain a bid or bids for submittal to the Principal Representative for completing the Contract in accordance with its terms and conditions, and upon determination by the Principal Representative and Surety of the lowest responsible bidder, arrange for a contract between such bidder and the State of Colorado acting by and through the Principal Representative and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion, less the balance of the contract price but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount hereinbefore set forth. The term "balance of the contract price" as herein used shall mean the total amount payable to the Principal under the Contract and any amendments thereto, less the amount properly paid by the State of Colorado to the Contractor.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the State of Colorado.

IN WITNESS WHEREOF said Principal and Surety have executed this Bond, on

(If left blank, the Institution/Agency will date this bond to match the Contract date)

(Corporate Seal)

THE PRINCIPAL

ATTEST:

By: _____

Title: _____

Secretary

(Corporate Seal)

SURETY

By: _____

Attorney-in-fact

THIS BOND MUST BE ACCOMPANIED BY POWER OF ATTORNEY, EFFECTIVELY DATED

Note: This bond is issued simultaneously with another bond conditioned for the full and faithful payment for all labor and material of the contract.



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM

COLORADO LABOR AND MATERIAL BOND

Institution/Agency: REGENTS OF THE UNIVERSITY OF COLORADO, a body corporate, acting by and through the UNIVERSITY OF COLORADO, COLORADO SPRINGS
Project No./Name: 2019-106M22 / Replace Roof, Columbine Hall

BONDING COMPANY: DO NOT MAKE ANY CHANGES TO THE LANGUAGE IN THIS BOND.

KNOW ALL PERSONS BY THESE PRESENTS:

That the Contractor

as Principal and hereinafter called "Principal,"

and

as Surety and hereinafter called "Surety," a corporation organized and existing under the laws of

_____ are held and firmly bound unto **the STATE OF COLORADO** acting by and through the Institution/Agency identified above hereinafter called "Principal Representative," and to all subcontractors and any others who have supplied or furnished or shall supply or furnish materials, rental machinery, tools, or equipment actually used in the performance of the hereinafter identified Contract, or who have performed or shall perform labor in the performance of or in connection with said Contract, hereinafter called "Obligees" in the sum of:

_____ Dollars (\$ _____)
(Written Amount) (Numerical Amount)

together with interest at the rate of eight per cent (8%) per annum on all payments becoming due in accordance with said Contract, from the time such payments shall become due until such payment shall be made, for the payment of which, well and truly made to the Obligees, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly, by these presents.

WHEREAS, the Principal and the State of Colorado acting by and through the Principal Representative have entered into a certain Contract, hereinafter called "Contract," dated

_____ for the construction of a PROJECT
(Leave blank, to be completed by Institution/Agency)

identified above, which Contract is hereby by reference made a part hereof;

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal and the Surety shall fully indemnify and save harmless the State of Colorado and the Principal Representative from and against any and all costs and damages, including patent infringements, which either may suffer by reason of any failure or failures of the Principal promptly and faithfully to perform all terms and conditions of said Contract and shall fully reimburse and repay the State of Colorado and the Principal Representative all outlay and expense which the State of Colorado and the Principal Representative may incur in making good any such failure or failures, and further, if the Principal and his subcontractors shall duly and promptly pay for any and all labor, materials, team hire, sustenance, provisions, provender, rental machinery, tools, or equipment and other supplies which have been or shall be used or consumed by said Principal or his subcontractors in the performance of the work of said Contract, and it said Principal shall duly and promptly pay all his subcontractors the sums due them for any and all materials, rental machinery, tools, or equipment and labor that have been or shall be furnished, supplied, performed or used in connection with performance of said Contract, and shall also fully indemnify and save harmless the State of Colorado and the Principal Representative to the extent of any and all expenditures which either or both of them may be required to make by reason of any failures or defaults by the Principal or any subcontractor in connection with such payments; then this obligation shall be null and void, otherwise it shall remain in full force and effect.

It is expressly understood and agreed that any alterations which may be made in the terms of said Contract or in the work to be done under said Contract, or any extension(s) of time for the performance of the Contract, or any forbearance on the part of either the State of Colorado or the Principal to any of the others, shall not in any way release the Principal and the Surety, or either of them, their heirs, executors, administrators, successors or assigns from their liability hereunder, notice to the Surety of any such alteration, extension or forbearance being hereby waived.

IN WITNESS WHEREOF, the Principal and the Surety have executed this Bond, , on

(If left blank, the Institution/Agency will date this bond to match the Contract date)

(Corporate Seal)

THE PRINCIPAL

ATTEST:

By: _____

Title: _____

Secretary

(Corporate Seal)

SURETY

By: _____
Attorney-in-fact

THIS BOND MUST BE ACCOMPANIED BY POWER OF ATTORNEY, EFFECTIVELY DATED

Note: This bond is issued simultaneously with another bond conditioned for the full and faithful performance of the contract.



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM

**COLORADO APPRENTICESHIP UTILIZATION CERTIFICATION
(Public Projects of \$1 million or more)**

Institution/Agency: REGENTS OF THE UNIVERSITY OF COLORADO, a body corporate, acting by and through the UNIVERSITY OF COLORADO, COLORADO SPRINGS
 Project No./Name: 2019-106M22 / Replace Roof, Columbine Hall
 General Contractor: _____

For each trade listed below attach documentation that all firms identified participate in apprenticeship programs as described in the Certification Statement below.

TRADE	SUBCONTRACTOR	UNION AFFILIATION
Mechanical		
Sheet Metal		
Fire Suppression		
Sprinkler Fitting		
Plumbing		
Electrical		

CERTIFICATION STATEMENT § 24-92-115, C.R.S. (SB 19-196)

The above named General Contractor certifies and agrees as follows:

All firms identified above participate in apprenticeship programs registered with the United States Department of Labor's Employment and Training Administration or state apprenticeship councils recognized by the United States Department of Labor and have a proven record of graduating apprentices at a minimum of fifteen percent of its apprentices for at least three of the past five years. The General Contractor shall supply supporting documentation from the United States Department of Labor's office of apprenticeship verifying the certification.

The above documentation shall be made publicly available by the contracting agency through its website within thirty (30) days from when it is submitted.

The General Contractor shall agree to provide additional documentation to the contracting agency regarding affected apprenticeship training programs relating to the requirements above. If a contracting agency determines that a subcontractor has willfully falsified documentation or willfully misrepresented their qualifications, the agency shall direct the General Contractor to terminate the subcontractor contract immediately and the subcontractor will be immediately removed from the public project. At the discretion of the Director of the Department of Personnel, the State may initiate the process to debar the General Contractor pursuant to § 24-109-105, C.R.S., and may pursue any other remedy provided by law.

CERTIFIED and AGREED to this _____ day of _____, 20____.

GENERAL CONTRACTOR:

Full Legal Name

BY: _____



STATE OF COLORADO
 OFFICE OF THE STATE ARCHITECT
 STATE BUILDINGS PROGRAM

DIRECT LABOR BURDEN CALCULATION

Institution/Agency: University of Colorado Colorado Springs

Project No./Name: **2019-106M22 Replace Roof, Columbine Hall**

This form is required to be submitted for review prior to execution of a construction agreement.

List items below by the percentage of what makes up the total labor burden; Items include benefits that a contractor pays to employees on their payroll. Examples include taxes, pension cost, health and dental insurance etc. The Labor Burden amount must be agreed to by both the contractor and Principal Representative and will be included in the contract as part of Exhibit A and will be used in the calculation of any future Change Order Proposals (SC-6.312) Line 2.

Major sub-contractors defined as electricians, plumbers, mechanical contractors, excavators, millwork, concrete, block layers etc. Please provide one (1) Labor Burden Calculation Sheet per contractor and for each sub-contractor. These labor burdens shall be used in the calculation of any future Change Order Proposals (SC-6.312) Line 10.

State reserves the right to require back-up confirmation of all information included in this calculation.

Contractor/Subcontractor Name:		
	Percent of Salary Paid	
Payroll Taxes		
Pension Costs		
Health Insurance		
Dental Insurance		
Life Insurance		
Other (Specify)		Description: _____
Other (Specify)		Description: _____
Total Labor Burden:	0%	



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM

COLORADO NOTICE TO PROCEED (DESIGN/BID/BUILD CONTRACT)

Date of Notice: _____
Date to be inserted by the Principal Representative
Date/Description of Contract Documents: _____
REGENTS OF THE UNIVERSITY OF COLORADO, a body corporate, acting by and through
Institution/Agency: COLORADO, COLORADO SPRINGS
Project No./Name: 2019-106M22 / Replace Roof, Columbine Hall

Attach Notice of Code Compliance from Code Review Agent/Building Official for Documents Listed Above

To:

This is to advise you that your Performance Bond, Labor and Material Payment Bond, Insurance Policy and Certificates of Insurance have been received. Our issuance of this Notice does not relieve you of responsibility to assure that the bond and insurance requirements of the Contract Documents are met for the duration of the Agreement. The Agreement dated _____ covering the above described work has been fully executed.

You are hereby authorized and directed to proceed within ten (10) days from date of this Notice as required in the Agreement. Any liquidated damages for failure to achieve Substantial Completion by the date agreed that may be applicable to this Contract will be calculated using the date of this Notice for the date of the commencement of the Work.

The total completion date (including close-out) of the Project is _____ (M/D/YYYY).

By _____ Date
State Buildings Program
(or Authorized Delegate)

By _____ Date
Principal Representative
(Institution or Agency)

When completely executed, this form is to be sent to the Contractor by the Principal Representative.



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

DATE: _____

CERTIFICATE FOR CONTRACTOR'S PAYMENT

PAY APPLICATION #: _____ FROM: _____ TO: _____ P.O. NO: _____
 CONTRACTOR: _____
 AGENCY/INSTITUTION: UNIVERSITY OF COLORADO, COLORADO SPRINGS
 PROJECT #/TITLE: 2019-106M22 / Replace Roof, Columbine Hall

AMENDMENTS/CHANGE ORDER SUMMARY				Application is made for Progress for work completed and in place and stored on site on the above Project. As indicated on the following page(s).		
		Deductions (L)	Additions (M)			
Prior amendments / Change Orders				ORIGINAL CONTRACT SUM (K/E) \$0.00		
CO#s:				NET CHANGE FROM AMENDMENTS/CHANGE ORDERS (L + M/E) \$0.00		
		Total		PRESENT CONTRACT TOTAL (N/E) \$0.00		
Approved This Period				Current to Date Total Amount Earned (Due to Date (I))		
Number	Date			Retainage	Current to Date Payment Less Retainage	
				\$0.00	\$0.00	
Total Approved this Period		\$0.00	\$0.00	Prior Payments Total Amount Earned		
				Retainage	Prior Payments Less Retainage	
					\$0.00	
				This Payment Total Amount Earned		
				Retainage	This Payment Less Retainage	
Totals		\$0.00	\$0.00		\$0.00	
		\$0.00	\$0.00	Warrant Amount		
		\$0.00	\$0.00			
Net change by Amendments / Change Orders (L + M)						
INSTITUTION/AGENCY (or Authorized Delegate) _____ Date _____				Contractor certifies that all work and materials included in this estimate complies with the terms and conditions of the conditions construction contract and authorized changes thereto.		ARCHITECTS/ENGINEER'S CERTIFICATION In accordance with the Contract and this Application for Payment, the above Contractor is entitled to a payment of: \$0.00
STATE BUILDINGS PROGRAMS (or Authorized Delegate) _____ Date _____				CONTRACTOR _____ Date _____		ARCHITECT/ENGINEER _____ Date _____



STATE OF COLORADO
 OFFICE OF THE STATE ARCHITECT
 STATE BUILDINGS PROGRAMS

DATE:

CONTRACTOR'S APPLICATION FOR PAYMENT

Detail of Schedule of Values					Totals of Work Completed and Stored to Date			
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
Item No.	Description of Work	Material	Labor and Other	Totals (C + D)	Materials On-Site But Not In Place	WORK IN PLACE		Total Amount Due to Date (F+G+H)
						Material	Labor and Other	
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
				\$0.00				\$0.00
(K)	ORIGINAL CONTRACT TOTALS (SUM)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
(L)	AMENDMENTS/CHANGE ORDER DEDUCTIONS			\$0.00				\$0.00
(M)	AMENDMENTS/CHANGE ORDER ADDITIONS			\$0.00				\$0.00
(N)	PRESENT CONTRACT TOTALS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM

COLORADO CHANGE ORDER BULLETIN

Change Order Bulletin No: _____ Date _____

Contractor: _____

Institution or Agency: REGENTS OF THE UNIVERSITY OF COLORADO, a body corporate, acting by and through the UNIVERSITY OF COLORADO, COLORADO SPRINGS

Project No./Name: 2019-106M22 / Replace Roof, Columbine Hall

Description of Work: _____

This bulletin is issued to define the scope of revision in drawings and/or specifications for a contemplated change order. The work called for by these revisions shall be in accordance with the requirements of the original contract documents.

Please prepare and submit a proposal for the changes described below. For pricing use State Form SC-6.312. A formal change order State Form SC-6.31 will be issued after approval of your proposal by State Buildings Program and the Architect. Your proposal shall include a statement as to the effect this change will have on the time for completion of the project.

This bulletin is **NOT** an authorization to proceed.

DESCRIPTION OF CHANGE:

SPECIFICATION REVISIONS:

STATUS OF EXISTING WORK:

PREPARED BY: _____
ARCHITECT/ENGINEER OR CONTRACTOR

APPROVED BY: _____
STATE BUILDINGS PROGRAM
(or Authorized Delegate)



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

CHANGE ORDER PROPOSAL

(enter information ONLY in YELLOWED cells)

Change Order Proposal No. _____ Date _____

Change Order Bulletin No: _____
Description of Work: _____ Date _____

Contractor
UNIVERSITY OF COLORADO, COLORADO SPRINGS
Institution or Agency
2019-106M22 / Replace Roof, Columbine Hall
Project No./Name

(Before completing this form, read instructions on reverse side.)

PART I - WORK PERFORMED BY CONTRACTOR

Line 1.	Direct Labor Costs		\$				
Line 2.	Labor Overhead (Direct Labor Burdens)	(_____ x Line 1)	\$	0.00			
Line 3.	Total Contractor's Labor Costs (Lines 1 and 2)		\$	0.00			
Line 4.	Direct Materials Costs		\$				
Line 5.	Materials Overhead (Delivery Costs & Taxes)	(_____ x Line 4)	\$	0.00			
Line 6.	Total Materials Costs (Lines 4 and 5)		\$	0.00			
Line 7.	Total Equipment Costs		\$				
Line 8.	PART I - TOTAL CONTRACTOR'S L, M & E COSTS (Lines 3, 6 and 7)					Part I	\$ 0.00

PART II - WORK PERFORMED BY SUBCONTRACTOR

Line 9.	Direct Labor Costs		\$				
Line 10.	Labor Overhead (Direct Labor Burdens)	(_____ x Line 9)	\$	0.00			
Line 11.	Total Subcontractor's Labor Costs (Lines 9 and 10)		\$	0.00			
Line 12.	Direct Materials Costs		\$				
Line 13.	Materials Overhead (Delivery Costs & Taxes)	(_____ x Line 12)	\$	0.00			
Line 14.	Total Subcontractor's Materials Costs (Lines 12 and 13)		\$	0.00			
Line 15.	Total Subcontractor's Equipment Costs		\$				
Line 16.	Total Subcontractor's L, M & E Costs (Line 11, 14 and 15)		\$	0.00			
Line 17.	Subcontractor's Overhead (Indirect Costs)	(10.0% x Line 16)	\$	0.00			
Line 18.	Subcontractor's Profit (on line 16) _____ Addition or Deduct _____		\$	0.00			
Line 19.	PART II - TOTAL SUBCONTRACTOR'S COSTS (Lines 16, 17 and 18)					Part II	\$ 0.00

PART III - CONTRACTOR'S OVERHEAD & PROFIT

Line 20.	Contractor's Overhead (Indirect Costs)	(10.0% x Part I Total)	\$	0.00			
Line 21.	Contractor's Overhead (2nd Tier only)	(5.0% x Part I Total)	\$	0.00			
Line 22.	PART III - TOTAL CONTRACTOR OVERHEAD & PROFIT (Lines 20 and 21)					Part III	\$ 0.00

PART IV - CONTRACTOR'S MARKUP ON SUBCONTRACTOR

Line 23.	Contractor's Commission on Subcontractor	(5.0% x Part II Total)	\$	0.00			
Line 24.	Contractor's Profit (on Line 19) _____ Addition or Deduct _____		\$	0.00			
Line 25.	PART IV - TOTAL CONTRACTOR MARKUP ON SUBCONTRACTOR (Lines 23 and 24)					Part IV	\$ 0.00

PART V - SUBTOTAL C.O. PROPOSAL (Parts I and II and III and IV)

Part V (Subtotal) \$ 0.00

PART VI - CONTRACTOR'S BOND COST

(_____ x Part V Total) Part VI \$ 0.00

PART VII - GRAND TOTAL CHANGE ORDER PROPOSAL (Sum of Totals: Parts V and VI)

Grand Total \$ **0.00**

PART VIII - CONTRACT TIME (CALENDAR DAYS CHANGED) EXTENDED NO CHANGE REDUCED _____ Days

THE TIME OF COMPLETION MAY CHANGE BY THE CALENDAR DAYS INDICATED (ABOVE) FROM THE TOTAL NUMBER OF DAYS LISTED IN THE CONTRACTOR'S AGREEMENT TO COMPLETE THE ENTIRE PROJECT.

CONTRACTOR'S CERTIFICATE:

This is to certify that, to the best of my knowledge and belief, the cost/price data submitted in response to the listed C.O. Bulletin, are accurate, complete and current as of _____.

Firm: _____

Name & title _____

Signature: _____

*Date: _____

ARCHITECT/ENGINEER'S CERTIFICATE:

This is to certify that I have analyzed the proposal and find, to the best of my knowledge and belief, that the proposal represents current, fair, factual and competitive cost/price data.

Firm: _____

Name & title _____

Signature: _____

Date: _____

* The proposal shall remain in full force and effect for a period of _____ calendar days from date of signature.

STATE BUILDINGS PROGRAMS (or Authorized Delegate)

_____ Date: _____

INSTRUCTIONS FOR COMPLETING "CHANGE ORDER PROPOSAL" COST/PRICE DATA SUMMARY (STATE FORM SC-6.312)

(enter information only in YELLOWED cells)

Enter Change Order Proposal Number, Date Created, Contractor's Name, Agency/Institution, State Project Number and Name.

REFERENCE: Enter Change Order Bulletin Number, Date Issued, and Description of Changes from Bulletin, noting exceptions which are listed in the Bulletin but are excluded, i.e., not priced on this form.

PART I - WORK PERFORMED BY CONTRACTOR:

Line 1. Direct Labor Costs: Fill in subtotal of direct labor costs which includes base rates plus applicable fringe benefits. On Contractor's (or Sub's) letterhead show costs as follows:

Trade	Rate	Duration	Extended Costs
_____	\$ _____	x _____	= \$ _____
_____	\$ _____	x _____	= \$ _____
_____	\$ _____	x _____	= \$ _____
		Direct Labor Cost	= \$ _____

Line 2. Labor Overhead (Direct Labor Burdens, etc.): Enter percentage (as submitted in Schedule of Values) of Line 1 as applicable. (Spreadsheet calculates the value)

Line 3. Total Contractor's Labor Costs: Total of Lines 1 and 2. (Spreadsheet calculates the total)

Line 4. Direct Material Cost: Support with quotes or invoices. Fill in subtotal of direct materials costs. Include all delivery, handling, insurance costs, etc. On Contractor's letterhead show direct materials costs as follows:

Materials	Rate	Quantity	Extended Costs
_____	\$ _____	x _____	= \$ _____
_____	\$ _____	x _____	= \$ _____
_____	\$ _____	x _____	= \$ _____
		Direct Materials Cost	= \$ _____

Line 5. Materials Overhead (Delivery, taxes, insurance, etc. - as mutually agreed upon at contract signing):

Enter percentage as applicable. (Spreadsheet calculates the value)

Line 6. Total Contractor's Material Costs: Total of Lines 4 and 5. (Spreadsheet calculates the total)

Line 7. Total Contractor's Equipment Costs: Enter total equipment costs including indirect overhead costs in hourly rate - except indirect labor costs. On Contractor's letterhead show total equipment costs as follows:

Equipment	Rate	Duration	Extended Costs
_____	\$ _____	x _____	= \$ _____
_____	\$ _____	x _____	= \$ _____
_____	\$ _____	x _____	= \$ _____
		Total Equipment Cost	= \$ _____

Line 8. TOTAL CONTRACTOR'S Labor, Materials & Equipment (L, M & E) Costs: Add Lines 3, 6 and 7 of Part I. (Spreadsheet form calculates totals)

PART II - WORK PERFORMED BY SUBCONTRACTOR

(Additional tabs are available to calculate subcontractor details-explanation of costs)

Line 9. Direct Labor Costs: Subcontractors, Fill in subtotal of direct labor costs which includes base rates

Trade	Rate	Duration	Extended Costs
_____	\$ _____	x _____	= \$ _____
_____	\$ _____	x _____	= \$ _____
_____	\$ _____	x _____	= \$ _____
		Direct Labor Cost	= \$ _____

Line 10. Labor Overhead (Direct Labor Burdens, etc.): Enter percentage (as submitted in Schedule of Values) of Line 9 as applicable. (Spreadsheet calculates the value)

Line 11. Total Subcontractor's Labor Costs: Total of Lines 9 and 10. (Spreadsheet calculates the total)

Line 12. Direct Material Cost: Support with quotes or invoices. Fill in subtotal of direct materials costs.

Materials	Rate	Quantity	Extended Costs
_____	\$ _____	x _____	= \$ _____
_____	\$ _____	x _____	= \$ _____
_____	\$ _____	x _____	= \$ _____
		Direct Materials Cost	= \$ _____

Line 13. Materials Overhead (Delivery, taxes, insurance, etc.) Enter percentage as applicable. (Spreadsheet calculates the value)

Line 14. Total Subcontractor's Material Costs: Total of Lines 12 and 13. (Spreadsheet calculates the total)

Line 15. Total Subcontractor's Equipment Costs: Enter total equipment costs including indirect overhead costs

Equipment	Rate	Duration	Extended Costs
_____	\$ _____	x _____	= \$ _____
_____	\$ _____	x _____	= \$ _____
_____	\$ _____	x _____	= \$ _____
		Total Equipment Cost	= \$ _____

Line 16. TOTAL SUBCONTRACTOR'S Labor, Materials & Equipment (L, M & E) Costs: Add Lines 11, 14 and 15 of Part II.

Line 17. Subcontractor's Overhead (Indirect costs). Edit percentage of Line 16 if applicable - See Article 35 of General Conditions.

Line 18. Subcontractor's Profit: Enter a "1" in appropriate cell. For an addition, Edit E37, a deduct, Edit I37, See Article 35 General Conditions.

Line 19. TOTAL SUBCONTRACTOR'S Labor, Materials & Equipment (L, M & E) Costs: Add Lines 16, 17 and 18 of Part II.

PARTS III THROUGH VIII - CERTIFICATIONS - Self Explanatory.

Part 3. Edit percentages for Line 20 or 21 if applicable. See Article 35 of General Conditions.

Part 4. Line 23, Edit percentages applicable to Line 18. See Article 35 of General Conditions.

Part 4. Line 24, Enter a "1" in appropriate cell. For an addition, edit E45, a deduct edit I45. See Article 35 of General Conditions.

Part 5. SUBTOTAL OF CHANGE ORDER PROPOSAL (sum of lines 8, 19, 22, and 25 - applicable)

Part 6. Contractor's Bond Cost: Enter percentage value of Part 5 as applicable. (spreadsheet calculates the value)

Part 7. GRAND TOTAL OF THE CHANGE ORDER PROPOSAL. (spreadsheet calculates the sum of parts 5 and 6)

Part 8. Contract time change. Place an "X" in appropriate cell and edit the cell to indicate the number of days changed.

A. **The Contractor**, who prepares this proposal form, certifies the cost/price data by signing, dating, and forwarding same to the Architect/Engineer (or Consultant) for further action.

B. **The Architect/Engineer (or Consultant)** reviews and analyzes the cost/price data for the requirements that these are: 1) currently prevalent, 2) reasonably fair, 3) factually applicable, and 4) equivalently competitive market selling prices. The Architect/Engineer (or Consultant) may negotiate - after receipt of the cost proposal - any or all of the cost elements of the proposal to support a recommendation of acceptance to the Principal Representative. Certification by the A/E (or Consultant) of the above requirements is made upon his signature. The Architect/Engineer (or Consultant) forwards the proposal with the supporting back-up to the Agency.

C. **The Authority** for the Institution or Agency (usually the Principal Representative) reviews the proposal, signs, dates, and forwards to Office of the State Architect for final action.

D. **State Buildings Delegate** reviews the cost proposal, with all supporting back-up, for technical and procedural requirements and, if in order, signs and dates the proposal.



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM

COLORADO CHANGE ORDER

Change Order No: _____ Contract ID No. _____ Date _____

Contractor: _____

Institution or Agency: REGENTS OF THE UNIVERSITY OF COLORADO, a body corporate, acting by and through the UNIVERSITY OF COLORADO, COLORADO SPRINGS

Project No./Name: 2019-106M22 / Replace Roof, Columbine Hall

Your Change Order Proposal(s), dated _____ is hereby being designated for approval of the following work:

(Note: If more space is needed for description of work, attach additional 8-1/2" x 11" sheets hereto.)

This change order was originated by the Contractor , Architect/Engineer , State , and I/We do hereby recommend acceptance and approval of the change to the Contractor's Agreement Dated _____ which is by this reference, made a part hereof, and identified as Exhibit _____ with an increase , a decrease , no change , of \$_____.

The Time of Completion is extended _____ calendar days , is unchanged , is reduced calendar days, from the total number of days listed in the Contractor's Agreement to complete the entire Project. The revised total number of days to complete the entire Project aggregating this Change Order and previously approved Change Order(s) per the Summary of Changes chart below, is _____ calendar days. If the completion date was extended or reduced, the new completion date of the Project is _____ (M/D/YYYY).

SUMMARY OF CHANGES			
	Description of Work/Date	Time of Completion/ Calendar Days Extended/Reduced	Dollar Amounts
Original Contract			
Change Order #1			
Change Order #2			
Current Totals			

*Persons signing for Architect/Engineer/Contractor hereby swear and affirm that they are authorized to act on Architect/Engineer/Contractor's behalf and acknowledge that the State is relying on their representations to that effect. **Principal is not a recognized title and will not be accepted.**

Architect/Engineer Firm	Name and Title (print)	Date
	Signature	
Contractor (Name of Firm)	Name and Title (print)	Date
	Signature	
Institution or Agency	Name and Title (print)	Principal Representative (Signature)
		Date

CONTRACT STATUS			
Original Contract Value			
Previous increases by CO/Amend		STATE BUILDINGS PROGRAM (or Authorized Delegate)	DATE
Previous decreases by CO/Amend			
Value After Prior CO's/Amend		STATE CONTROLLER (or Authorized Delegate)	DATE
This CO/Amend			
Increases <input type="checkbox"/> Decreases <input type="checkbox"/>		(Verification)	
CURRENT CONTRACT VALUE			



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM

EMERGENCY FIELD CHANGE ORDER

Emergency Field
Change Order No: _____ Contract ID No. _____ Date _____

Contractor: _____

Institution or Agency: REGENTS OF THE UNIVERSITY OF COLORADO, a body corporate, acting by and through the UNIVERSITY OF COLORADO, COLORADO SPRINGS

Project No./Name: 2019-106M22 / Replace Roof, Columbine Hall

Your Emergency Field Change Order Proposal(s), dated _____ is hereby being designated for approval of the following work:

(Note: If more space is needed for description of work, attach additional 8-1/2" x 11" sheets hereto.)

This change order was originated by the Contractor , Architect/Engineer , State , and I/We do hereby recommend acceptance and approval of the change to the Contractor's Agreement Dated _____ which is by this reference, made a part hereof, and identified as Exhibit _____ with an increase , a decrease , no change , of \$_____.

The Time of Completion is extended _____ calendar days , is unchanged , is reduced , calendar days, from the total number of days listed in the Contractor's Agreement to complete the entire Project. The revised total number of days to complete the entire Project aggregating this Change Order and previously approved Change Order(s) per the Summary of Changes chart below, is _____ calendar days. If the completion date was extended or reduced, the new completion date of the Project is _____ (M/D/YYYY).

SUMMARY OF CHANGES			
	Description of Work/Date	Time of Completion/ Calendar Days Extended/Reduced	Dollar Amounts
Original Contract			
Change Order #1			
Change Order #2			
Current Totals			

*Persons signing for Architect/Engineer/Contractor hereby swear and affirm that they are authorized to act on Architect/Engineer/Contractor's behalf and acknowledge that the State is relying on their representations to that effect. **Principal is not a recognized title and will not be accepted.**

Architect/Engineer Firm	Name and Title (print)	Date
	Signature	
Contractor (Name of Firm)	Name and Title (print)	Date
	Signature	
Institution or Agency	Name and Title (print)	Date
	Principal Representative (Signature)	

CONTRACT STATUS	
<p>Original Contract Value _____</p> <p>Previous increases by CO/Amend _____</p> <p>Previous decreases by CO/Amend _____</p> <p>Value After Prior CO's/Amend _____</p> <p>This CO/Amend</p> <p style="padding-left: 20px;">Increases <input type="checkbox"/> Decreases <input type="checkbox"/></p> <p>CURRENT CONTRACT VALUE _____</p>	<hr/> <p>STATE BUILDINGS PROGRAM (or Authorized Delegate) _____ DATE</p> <p><i>NOT REQUIRED PER GENERAL CONDITIONS</i></p> <hr/> <p>STATE CONTROLLER (or Authorized Delegate) _____ DATE</p> <p style="text-align: center;">(Verification)</p>



STATE OF COLORADO
 OFFICE OF THE STATE ARCHITECT
 STATE BUILDINGS PROGRAMS

PRE-ACCEPTANCE CHECKLIST*

Institution or Agency: UNIVERSITY OF COLORADO, COLORADO SPRINGS Final Punch List Date _____
 Architect/Engineer: _____
 Contractor: _____
 Project No./Name: 2019-106M22 / Replace Roof, Columbine Hall

After Contractor is satisfied that work is complete as per Notice of Substantial Completion Punch List, a date for final review is established. Architect/Engineer inspection is made with Contractor(s) and Principal Representative and State Buildings Programs (SBP) present. Forms are processed as required.

	DATE COMPLETED	A/E SIGNOFF	REMARKS
1. The Notice of Approval of Occupancy/Use has been fully executed.			
2. Schedule for corrections, deficiencies, and items to be supplied are established by Contractor.			
3. Final Change Orders are processed (work must be completed prior to Notice of Acceptance).			
4. Punch list work is completed and accepted			
5. Permanent keying, keys and keying instructions have been performed.			
6. Extra materials as per specifications are delivered to Principal Representative.			
7. As-built drawings have been submitted to Architect/Engineer.			
8. Guarantee/Warranty documentation requirements are met.			
9. Five Most Costly Goods form is completed by Contractor and received			
10. Removal of Contractor's temporary work including cleanup and debris removal.			
11. State personnel are instructed in system and equipment operations as required by contract.			
12. All Instructions, manuals, guides, and charts have been transmitted to Principal Representative.			

 Architect/Engineer Date

 Contractor Date

 State Buildings Programs (or Authorized Delegate) Date

 Principal Representative (Institution or Agency) Date



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM

NOTICE OF PARTIAL SUBSTANTIAL COMPLETION

Date of Partial Substantial Completion: _____

Date to be inserted by the Principal Representative

Institution/Agency: REGENTS OF THE UNIVERSITY OF COLORADO, a body corporate, acting by and thr
COLORADO, COLORADO SPRINGS

Project No./Name: 2019-106M22 / Replace Roof, Columbine Hall

TO:

Principal Representative

and

Contractor

This is to advise you that the Work has been reviewed, inspected and determined, to the best knowledge, information and belief of the Architect/Engineer, to be substantially complete as of the date noted above in accordance with the criteria outlined in Article 41 of The General Conditions of the Contract in SC-6.23 and SC-8.1 or Article 17.3 in SC-6.4 and the Specifications, including without limitation a) suitable for occupancy, b) inspected for code compliance with Building Inspection Records signed by code officials for the State, c) determined to be fully and comfortably usable, and d) fully cleaned and appropriate for presentation to the public.

A punch list of work to be completed, work not in compliance with the Drawings or Specifications, and unsatisfactory work is attached hereto, along with the Contractor's schedule for the completion of each and every item identified on the punch list specifying the Subcontractor or trade responsible for the work, and the dates the completion or correction will be commenced and finished within any period indicated in the Agreement for punch list completion prior to Final Acceptance.

Except as stated on the reverse side of this Notice of Partial Substantial Completion, all manufacturers' warranties, other special warranties and the Contractor's one-year obligation to perform remedial work, shall commence on the Date of Substantial Completion noted above.

This Notice of Partial Substantial Completion shall be effective and establish the Date of Substantial Completion only when fully executed on the reverse by the Contractor and the Principal Representative. The Principal Representative accepts the Work as substantially complete as of the Date of Substantial Completion herein noted. The Contractor agrees to complete or correct the Work identified on the attached punch list and to do so in accordance with attached punch list completion schedule

Architect/Engineer	Date	Contractor	Date
--------------------	------	------------	------

State Buildings Program	Date	Principal Representative	Date
-------------------------	------	--------------------------	------

(or Authorized Delegate)

(Institution or Agency)

The responsibilities of the Principal Representative and the Contractor for security, maintenance, heat, utilities, and insurance shall be as specified in the Contract Documents or as otherwise hereafter noted:

Exceptions, if any, to the commencement of warranties shall be:

The attached final punch list consists of _____ pages, and the attached Contractor's schedule showing the dates of commencement and completion of each punch list item consists of _____ pages.

When completely executed, this form shall be sent to the Contractor and the Principal Representative with a copy to State Buildings Program.



STATE OF COLORADO
 OFFICE OF THE STATE ARCHITECT
 STATE BUILDINGS PROGRAM

NOTICE OF SUBSTANTIAL COMPLETION

Date of Substantial Completion: _____
Date to be inserted by the Principal Representative
 Institution/Agency: REGENTS OF THE UNIVERSITY OF COLORADO, a body corporate, acting by and thr
COLORADO, COLORADO SPRINGS
 Project No./Name: 2019-106M22 / Replace Roof, Columbine Hall

TO:

Principal Representative

and

Contractor

This is to advise you that the Work has been reviewed, inspected and determined, to the best knowledge, information and belief of the Architect/Engineer, to be substantially complete as of the date noted above in accordance with the criteria outlined in Article 41 of The General Conditions of the Contract in SC-6.23 and SC-8.1 or Article 17.3 in SC-6.4 and the Specifications, including without limitation a) suitable for occupancy, b) inspected for code compliance with Building Inspection Records signed by code officials for the State, c) determined to be fully and comfortably usable, and d) fully cleaned and appropriate for presentation to the public.

A punch list of work to be completed, work not in compliance with the Drawings or Specifications, and unsatisfactory work is attached hereto, along with the Contractor's schedule for the completion of each and every item identified on the punch list specifying the Subcontractor or trade responsible for the work, and the dates the completion or correction will be commenced and finished within any period indicated in the Agreement for punch list completion prior to Final Acceptance.

Except as stated on the reverse side of this Notice of Substantial Completion, all manufacturers' warranties, other special warranties and the Contractor's one-year obligation to perform remedial work, shall commence on the Date of Substantial Completion noted above.

This Notice of Substantial Completion shall be effective and establish the Date of Substantial Completion only when fully executed by the Contractor and the Principal Representative. The Principal Representative accepts the Work as substantially complete as of the Date of Substantial Completion herein noted. The Contractor agrees to complete or correct the Work identified on the attached punch list and to do so in accordance with attached punch list completion schedule

_____ Architect/Engineer	_____ Date	_____ Contractor	_____ Date
_____ State Buildings Program	_____ Date	_____ Principal Representative	_____ Date

(or Authorized Delegate)

(Institution or Agency)

The responsibilities of the Principal Representative and the Contractor for security, maintenance, heat, utilities, and insurance shall be as specified in the Contract Documents or as otherwise hereafter noted:

Exceptions, if any, to the commencement of warranties shall be:

The attached final punch list consists of _____ pages, and the attached Contractor's schedule showing the dates of commencement and completion of each punch list item consists of _____ pages.

When completely executed, this form shall be sent to the Contractor and the Principal Representative with a copy to State Buildings Program.



STATE OF COLORADO
 OFFICE OF THE STATE ARCHITECT
 STATE BUILDINGS PROGRAM

COLORADO

NOTICE OF APPROVAL OF OCCUPANCY/USE

Date of Occupancy:

Date to be inserted by the Architect/Engineer after consultation with Principal Representative
 REGENTS OF THE UNIVERSITY OF COLORADO, a body corporate, acting by and
 through the UNIVERSITY OF COLORADO, COLORADO SPRINGS

Institution/Agency:

Project No./Name:

2019-106M22 / Replace Roof, Columbine Hall

Portion(s) of project for which occupancy is approved:

Type of Occupancy: Total or Partial

The items identified below if applicable must be completed with before Occupancy is approved.

Date Completed	A/E Signoff	
		1a. The Notice of Substantial Completion has been issued.
		1b. The Building Inspection Record is completely signed-off and attached.
		2a. Notification has been made to the local Fire Department concerning which portion(s) of the building will be occupied and the date(s).
		2b. Fire alarms, smoke detection systems and building fire sprinkler systems have been fully checked and are operable.
		2c. The building's fire connections must be installed and operable, if applicable.
		3. Coordination for final utility and service connections and meters (water, gas, sewer, electricity and telecommunication) has been made and systems are in full operating order.
		4. Sterilization of plumbing systems has been performed.
		5. Operational test of systems and equipment has been performed as required.
		6. Systems adjustments such as balancing, equipment operations, etc., have been performed. Reports have been submitted to the Architect/Engineer for approval.
		7. Principal Representative furnished equipment and furnishings are coordinated and placed.



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM

NOTICE OF PARTIAL FINAL ACCEPTANCE

Date of Notice of Partial Acceptance: _____

Date to be inserted by A/E after consultation with the Principal Representative

Institution/Agency: REGENTS OF THE UNIVERSITY OF COLORADO, a body corporate, acting by
and through the UNIVERSITY OF COLORADO, COLORADO SPRINGS

Project No./Name: 2019-106M22 / Replace Roof, Columbine Hall

Portion(s) of Project for which final acceptance is approved:

TO:

Notice is hereby given that the State of Colorado, acting by and through the _____,
accepts as complete* the above numbered project.

_____	_____	_____	_____
State Buildings Program (or Authorized Delegate)	Date	Principal Representative (Institution or Agency)	Date

*When completely executed, this form is to be sent by certified mail to the Contractor by the Principal Representative.



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM

NOTICE OF FINAL ACCEPTANCE

Date of Notice of Acceptance: _____

Date to be inserted by A/E after consultation with the Principal Representative

Institution/Agency: REGENTS OF THE UNIVERSITY OF COLORADO, a body corporate, acting by and thr
OF COLORADO, COLORADO SPRINGS

Project No./Name: 2019-106M22 / Replace Roof, Columbine Hall

TO:

Notice is hereby given that the State of Colorado, acting by and through the _____,
accepts as complete* the above numbered project.

State Buildings Program
(or Authorized Delegate)

Date

Principal Representative
(Institution or Agency)

Date

*When completely executed, this form is to be sent by **certified mail** to the Contractor by the Principal Representative or delivered by any other means to which the parties agree.



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM

NOTICE OF PARTIAL CONTRACTOR'S SETTLEMENT

Institution/Agency: REGENTS OF THE UNIVERSITY OF COLORADO, a body corporate, acting by and through the UNIVERSITY OF COLORADO, COLORADO SPRINGS

Notice Number: _____

Project No./Title: 2019-106M22 / Replace Roof, Columbine Hall

Portion(s) of Project for which substantial completion is approved:

Notice is hereby given that on date at address Colorado, final settlement will be made by the STATE OF COLORADO with vendor name , hereinafter called the "CONTRACTOR", for and on account of the contract for the construction of a PROJECT as referenced above.

1. Any person, co-partnership, association or corporation who has an unpaid claim against the said project, for or on account of the furnishing of labor, materials, team hire, sustenance, provisions, provender, rental machinery, tools, or equipment and other supplies used or consumed by such Contractor or any of his subcontractors In or about the performance of said work, may at any time up to and including said time of such final settlement, file a verified statement of the amount due and unpaid on account of such claim
2. All such claims shall be filed with the Authority for College, Institution, Department or Agency.
3. Failure on the part of a creditor to file such statement prior to such final settlement will relieve the State of Colorado from any and all liability for such claim

Authorized Facility Manager or Authorized Individual

Name: _____
Approval Date: _____
Agency: _____
Phone: _____
Fax: _____
Email: _____

MEDIA OF PUBLICATION:

PUBLICATION DATES:

First:

Second:

(At least ten (10) days prior to above settlement date)

NOTES TO EDITOR:

Transmit two (2) copies of the Affidavit of Publication, and invoice, to:



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM

NOTICE OF CONTRACTOR'S SETTLEMENT

Institution/Agency: REGENTS OF THE UNIVERSITY OF COLORADO, a body corporate, acting by and through the UNIVERSITY OF COLORADO, COLORADO SPRINGS

Notice Number: _____

Project No./Title: 2019-106M22 / Replace Roof, Columbine Hall

Notice is hereby given that on date at address Colorado, final settlement will be made by the STATE OF COLORADO with vendor name, hereinafter called the "CONTRACTOR", for and on account of the contract for the construction of a PROJECT as referenced above.

1. Any person, co-partnership, association or corporation who has an unpaid claim against the said project, for or on account of the furnishing of labor, materials, team hire, sustenance, provisions, provender, rental machinery, tools, or equipment and other supplies used or consumed by such Contractor or any of his subcontractors in or about the performance of said work, may at any time up to and including said time of such final settlement, file a verified statement of the amount due and unpaid on account of such claim
2. All such claims shall be filed with the Authority for College, Institution, Department or Agency.
3. Failure on the part of a creditor to file such statement prior to such final settlement will relieve the State of Colorado from any and all liability for such claim

Authorized Facility Manager or Authorized Individual

Name: _____
Approval Date: _____
Agency: _____
Phone: _____
Fax: _____
Email: _____

MEDIA OF PUBLICATION:

PUBLICATION DATES:

First:

Second:

(At least ten (10) days prior to above settlement date)

NOTES TO EDITOR:

Transmit two (2) copies of the Affidavit of Publication, and invoice, to:

FIVE MOST COSTLY GOODS FORM

Reference: CRS 24-103-910; House Bill HB 13-1292 and HB 17-1051

(To be completed after Substantial Completion or fill out and return with Pre-Acceptance Form SBP-05)

This form must be completed for all **State Appropriated projects** that have a project cost of \$500,000 or more at Project Completion.* **Include the five most costly goods** with total cost and country of origin of the goods and any applicable federal domestic content preferences incorporated into the project, including iron, steel, or related manufactured goods.

Date

Department/Institution of Higher Education* **UNIVERSITY OF COLORADO, COLORADO SPRINGS**

Project No. / Name **2019-106M22 / Replace Roof, Columbine Hall**

Contractor Name

<i>Most Costly Goods</i>	<i>Actual Total Cost Amount</i>	<i>Country of Origin</i>	<i>Federal domestic content preference</i>
1.			
2.			
3			
4.			
5.			

A manufactured good is a good brought to the construction site for incorporation into the building or work that has been processed into a specific form and shape; or combined with another raw material to create a material that has different properties than the properties of the individual raw materials.

For example, a crane used to lift items on a construction site would not be considered a manufactured good covered because the crane is not incorporated into the building or public work. Similarly, an energy efficient desktop computer monitor does not become a permanent fixture of the building, and therefore is not "incorporated into" the building. As a result, the monitor does not fit the definition of a "manufactured good".

By contrast, a "smart" thermostat that is brought to the site for incorporation into a building would be covered by considered a manufactured Good. The individual parts that go into that meter, however, would be considered components or subcomponents.

In the case of iron or steel product, the product will be considered manufactured in the United States if all of the manufacturing processes for the final product take place in the United States. The manufactured good is deemed a product manufactured predominantly of steel or iron if the product consists of more than fifty percent steel or iron content when it is delivered to the job site for installation.

In the case of a manufactured good, a good will be considered manufactured in the United States if all of the manufacturing process for the final product take place in the United States irrespective of the origin of the manufactured good's subcomponents.

**Does not apply to projects for Institutions of Higher Education that have opted out of the State Procurement Code unless part of a federal grant program under the Revenue Loss Restoration Cash Fund CRS 24-75-227*



DO NOT SEND

DR 0172 (06/03/22)
COLORADO DEPARTMENT OF REVENUE
Denver CO 80261 - 0009
(303) 238-SERV (7378)

Special Notice

Purpose of this application

The exemption certificate for which you are applying must be used only for the purpose of purchasing construction and building materials for the exempt project described below. This exemption does not include or apply to the purchase or rental of equipment, supplies, and materials which are purchased, rented, or consumed by the contractor and which do not become a part of the structure, highway, road, street, or other public works owned and used by the exempt organization.

Any unauthorized use of the exemption certificate will result in revocation of your exemption certificate and other penalties provided by law.

A separate certificate is required for each project.

Subcontractors:

Subcontractors will not be issued Certificates of Exemption by the Department of Revenue. Upon receipt of the Certificate, the prime contractor should make a copy for each subcontractor involved in the project and complete it by filling in the subcontractor's name and address and signing it. The original Certificate should always be retained by the prime contractor. Copies of all Certificates that the prime contractor issued to subcontractors should be kept at the prime contractor's place of business for a minimum of three years and be available for inspection in the event of an audit.

Application Requirements (Checklist)

Prevent your application from being returned.

- Read the Special Notice
- Complete an application for each project.
- Accurately complete all applicable fields. (Read Instructions)
- Attach a copy of the contract or agreement page, identifying the contracting parties, bid amount, type of work performed. This must include the signature of the Exempt Organization.
- Bid amount on Contract or Agreement page matches the amount listed on the application (to the penny)
- The exempt organization's 98 number was provided and is correct.
- Ensure the completion dates listed on the application can be validated by your contract, award letter, agreement or purchase order.
- Sign the DR 0172 (Contractor Application for Exemption Certificate).

See FYI Sales 95 for information about qualifying affordable housing projects.



DO NOT SEND

DR 0172 (06/03/22)
COLORADO DEPARTMENT OF REVENUE
Denver CO 80261 - 0009
(303) 238-SERV (7378)

Form Instructions

Accurately complete all applicable fields. Additional information for specific fields is available below.

Contractor Information:

Colorado Withholding Account Number

A Colorado Account Number (CAN) should be provided in this field. If your company does have a (CAN) review the options listed below. Applications that are left blank or list N/A will not be processed.

Subsidiary:

This box is marked when a subsidiary is using the parent's withholding account number (only when it does not have its own.) Provide the parents CAN.

Subcontractor:

This box is marked when a contractor does not have employees of their own and outsources their employees through a subcontractor. List the subcontractor or subcontractors name and CAN(s).

Staffing Agency:

This box is marked when a contractor does not have employees of their own and outsources their employees through a staffing agency. Provide the Staffing Agency's name and CAN.

No employees/no subcontractors

For contractors with no employees, no subcontractors/ staffing agencies:

Write no employees in the (CAN) box and provide an explanation. For example, I have no employees or subcontractors and perform all of the work myself.

Attachment Required

Contract (agreement, purchase order, award letter)

Each application must include a copy of the contract or agreement to include the following information:

- The type and scope of work
- Bid amount (the same amount to the penny should be listed on your application)
- Project start and estimated completion dates.
- Is signed by contracting parties involved in the project including the exempt organization.

Exemption Information:

Exempt Organization's Number

An exempt organization's Colorado exemption account number will begin with a "98".

Contact the exempt organization to obtain or verify this information prior to submitting your application.

Failure to provide this number will cause your application to be rejected.

Scheduled Construction Start and Estimated Completion Dates

Enter the start and completion dates in these fields.

Ensure the completion dates listed on the application can be validated by your contract, award letter, agreement or purchase order.



140172 19999

Contractor Application for Exemption Certificate

This exemption does not include or apply to the purchase or rental of equipment, supplies, and materials which are purchased, rented, or consumed by the contractor and which do not become a part of the structure, highway, road, street, or other public works **owned** and **used** by the exempt organization.

Any unauthorized use of the exemption certificate will result in revocation of your exemption certificate and other penalties provided by law.

A separate certificate is required for each project.

Fax completed forms and contracts to 303-205-2376 or mail to: Colorado Department of Revenue, Denver, CO 80261-0009

Failure to accurately complete all boxes of the form or provide all supporting documentation will cause the application to be denied.

Must be completed by applicant					
Contractor Information					
Trade name/DBA					
Owner, partner or corporate last name			First Name		Middle Initial
Mailing Address		City		State	ZIP
E-Mail Address		FEIN		Bid amount for your contract (Must match to the penny) \$	
Fax number			Business Phone number		
Colorado withholding tax account number					
If your company does not have a Colorado withholding tax account number check the option below that applies (See instructions)					
<input type="checkbox"/> Subsidiary <input type="checkbox"/> Subcontractors <input type="checkbox"/> Staffing Agency <input type="checkbox"/> No employees/subcontractors (see below)					
No Employees/Subcontractors. (Provide explanation or attach a letter of explanation).					
Exemption Information					
Attachment Required Copies of contract or agreement page, identifying the contracting parties, bid amount, type of work, and signatures of contracting parties must be attached					
Name of exempt organization (as show on contract)				Exempt organization's number (See instructions) 98	
Address of exempt organization		City		State	ZIP
Principal contact at exempt organization-Last Name			First Name		Middle Initial
Housing Authority (if applicable)			Name of Project (if applicable)		
Owner of the Project (if applicable)					
Physical location of project site (give actual address when applicable and Cities and/or County(ies) where project is located)					
City		State	ZIP	Principal contact's telephone number	
Scheduled construction start date (MM/DD/YY)			Estimated completion date (MM/DD/YY) (See instructions)		
I declare under penalty of perjury in the second degree that the statements made in this application are true and complete to the best of my knowledge.					
Signature of the business owner, partner or corporate officer			Title of corporate officer		Date (MM/DD/YY)

**STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM**



COLORADO

**THE GENERAL CONDITIONS OF THE CONTRACTOR'S DESIGN/BID/BUILD (D/B/B)
AGREEMENT**
(STATE FORM SC-6.23)

**STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM**

**THE GENERAL CONDITIONS OF THE CONTRACTOR’S DESIGN/BID/BUILD AGREEMENT
(STATE FORM SC-6.23)**

TABLE OF CONTENTS	Page
1 ARTICLE 1 DEFINITIONS	1
1.1 CONTRACT DOCUMENTS	1
1.2 DEFINITIONS OF WORDS AND TERMS USED.....	2
2 ARTICLE 2 EXECUTION, CORRELATION, INTENT OF DOCUMENTS, COMMUNICATION AND COOPERATION	6
2.1 EXECUTION.....	6
2.2 CORRELATION	6
2.3 INTENT OF DOCUMENTS.....	6
2.4 PARTNERING, COMMUNICATIONS AND COOPERATION	7
3 ARTICLE 3 COPIES FURNISHED.....	8
4 ARTICLE 4 OWNERSHIP OF DRAWINGS.....	8
5 ARTICLE 5 ARCHITECT/ENGINEER’S STATUS.....	8
6 ARTICLE 6 ARCHITECT/ENGINEER DECISIONS AND JUDGMENTS, ACCESS TO WORK AND INSPECTION	8
6.1 DECISIONS	8
6.2 JUDGMENTS.....	8
6.3 ACCESS TO WORK	9
6.4 INSPECTION.....	9
7 ARTICLE 7 CONTRACTOR’S SUPERINTENDENCE AND SUPERVISION	10
8 ARTICLE 8 MATERIALS AND EMPLOYEES.....	11
9 ARTICLE 9 SURVEYS, PERMITS, LAWS, TAXES AND REGULATIONS.....	11
9.1 SURVEYS.....	11
9.2 PERMITS AND LICENSES	11
9.3 TAXES	12
9.4 LAWS AND REGULATIONS.....	12
10 ARTICLE 10 PROTECTION OF WORK AND PROPERTY	12
10.1 GENERAL PROVISIONS	12
10.2 SAFETY PRECAUTIONS.....	13
10.3 EMERGENCIES.....	13

11	ARTICLE 11 DRAWINGS AND SPECIFICATIONS ON THE WORK	13
12	ARTICLE 12 REQUESTS FOR INFORMATION AND SCHEDULES	14
12.1	REQUESTS FOR INFORMATION	14
12.2	SCHEDULES	14
13	ARTICLE 13 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES	16
13.1	SUBMITTAL PROCESS	16
13.2	FABRICATION AND ORDERING	17
13.3	DEVIATIONS FROM DRAWINGS OR SPECIFICATIONS	17
13.4	CONTRACTOR REPRESENTATIONS	17
14	ARTICLE 14 SAMPLES AND TESTING	18
14.1	SAMPLES	18
14.2	TESTING - GENERAL	18
14.3	TESTING - CONCRETE AND SOILS	18
14.4	TESTING - OTHER	19
15	ARTICLE 15 SUBCONTRACTS	19
15.1	CONTRACT PERFORMANCE OUTSIDE OF THE UNITED STATES OR COLORADO	19
15.2	SUBCONTRACTOR LIST	19
15.3	SUBCONTRACTOR SUBSTITUTIONS	19
15.4	CONTRACTOR RESPONSIBLE FOR SUBCONTRACTORS	20
16	ARTICLE 16 RELATIONS OF CONTRACTOR AND SUBCONTRACTOR	20
17	ARTICLE 17 MUTUAL RESPONSIBILITY OF CONTRACTORS	20
18	ARTICLE 18 SEPARATE CONTRACTS	20
19	ARTICLE 19 USE OF PREMISES	21
20	ARTICLE 20 CUTTING, FITTING OR PATCHING	21
21	ARTICLE 21 UTILITIES	21
21.1	TEMPORARY UTILITIES	21
21.2	PROTECTION OF EXISTING UTILITIES	22
21.3	CROSSING OF UTILITIES	22
22	ARTICLE 22 UNSUITABLE CONDITIONS	22
23	ARTICLE 23 TEMPORARY FACILITIES	22
23.1	OFFICE FACILITIES	22
23.2	TEMPORARY HEAT	22
23.3	WEATHER PROTECTION	23
23.4	DUST PARTITIONS	23
23.5	BENCH MARKS	23

23.6 SIGN	23
23.7 SANITARY PROVISION	23
24 ARTICLE 24 CLEANING UP	23
25 ARTICLE 25 INSURANCE	24
25.1 GENERAL	24
25.2 COMMERCIAL GENERAL LIABILITY INSURANCE (CGL)	24
25.3 AUTOMOBILE LIABILITY INSURANCE.....	25
25.4 WORKERS' COMPENSATION INSURANCE	25
25.5 UMBRELLA LIABILITY INSURANCE	25
25.6 BUILDER'S RISK INSURANCE.....	25
25.7 POLLUTION LIABILITY INSURANCE	26
25.8 ADDITIONAL MISCELLANEOUS INSURANCE PROVISIONS.....	27
26 ARTICLE 26 CONTRACTOR'S PERFORMANCE AND PAYMENT BONDS	27
27 ARTICLE 27 LABOR AND WAGES.....	27
27.1 COLORADO LABOR.....	27
27.2 PREVAILING WAGE RATES.....	28
28 ARTICLE 28 ROYALTIES AND PATENTS	28
29 ARTICLE 29 ASSIGNMENT	29
30 ARTICLE 30 CORRECTION OF WORK BEFORE ACCEPTANCE.....	29
31 ARTICLE 31 APPLICATIONS FOR PAYMENTS.....	30
31.1 CONTRACTOR'S SUBMITTALS	30
31.2 ARCHITECT/ENGINEER CERTIFICATION.....	31
31.3 RETAINAGE WITHHELD	31
31.4 RELEASE OF RETAINAGE.....	31
32 ARTICLE 32 CERTIFICATES FOR PAYMENTS	32
33 ARTICLE 33 PAYMENTS WITHHELD.....	33
34 ARTICLE 34 DEDUCTIONS FOR UNCORRECTED WORK	33
35 ARTICLE 35 CHANGES IN THE WORK.....	34
35.1 THE VALUE OF CHANGED WORK	34
35.2 DETAILED BREAKDOWN.....	35
35.3 HAZARDOUS MATERIALS	37
35.4 EMERGENCY FIELD CHANGE ORDERED WORK	37
35.5 APPROPRIATION LIMITATIONS - C.R.S. § 24-91-103.6, as amended	38
36 ARTICLE 36 CLAIMS	38
37 ARTICLE 37 DIFFERING SITE CONDITIONS	41

37.1 NOTICE IN WRITING	41
37.2 LIMITATIONS	41
38 ARTICLE 38 DELAYS AND EXTENSIONS OF TIME	41
39 ARTICLE 39 NON-BINDING DISPUTE RESOLUTION – FACILITATED NEGOTIATIONS.....	43
40 ARTICLE 40 RIGHT OF OCCUPANCY.....	44
41 ARTICLE 41 COMPLETION, FINAL INSPECTION, ACCEPTANCE AND SETTLEMENT	45
41.1 NOTICE OF COMPLETION.....	45
41.2 FINAL INSPECTION	45
41.3 NOTICE OF SUBSTANTIAL COMPLETION	45
41.4 NOTICE OF ACCEPTANCE	47
41.5 SETTLEMENT	47
42 ARTICLE 42 GENERAL WARRANTY AND CORRECTION OF WORK AFTER ACCEPTANCE.....	48
43 ARTICLE 43 LIENS.....	49
44 ARTICLE 44 ONE-YEAR GUARANTEE AND SPECIAL GUARANTEES AND WARRANTIES.....	49
44.1 ONE-YEAR GUARANTEE OF THE WORK.....	49
44.2 SPECIAL GUARANTEES AND WARRANTIES.....	49
45 ARTICLE 45 GUARANTEE INSPECTIONS AFTER COMPLETION	50
46 ARTICLE 46 TIME OF COMPLETION AND LIQUIDATED DAMAGES.....	50
47 ARTICLE 47 DAMAGES	52
48 ARTICLE 48 STATE’S RIGHT TO DO THE WORK; TEMPORARY SUSPENSION OF WORK; DELAY DAMAGES.....	53
48.1 STATE’S RIGHT TO DO THE WORK.....	53
48.2 TEMPORARY SUSPENSION OF WORK	53
48.3 DELAY DAMAGES	54
49 ARTICLE 49 STATE’S RIGHTS TO TERMINATE CONTRACT	54
49.1 GENERAL	54
49.2 CONDITIONS AND PROCEDURES.....	55
49.3 ADDITIONAL CONDITIONS	56
50 ARTICLE 50 TERMINATION FOR CONVENIENCE OF STATE.....	56
50.1 NOTICE OF TERMINATION	56
50.2 PROCEDURES.....	56
51 ARTICLE 51 CONTRACTOR’S RIGHT TO STOP WORK AND/OR TERMINATE CONTRACT.....	57
52 ARTICLE 52 SPECIAL PROVISIONS	58
52.1 CONTROLLER’S APPROVAL, C.R.S. § 24-30-202(1).....	58
52.2 FUND AVAILABILITY, C.R.S. § 24-30-202(5.5).....	58
52.3 GOVERNMENTAL IMMUNITY.....	58

52.4	INDEPENDENT CONTRACTOR	58
52.5	COMPLIANCE WITH LAW	59
52.6	CHOICE OF LAW, JURISDICTION, AND VENUE	59
52.7	PROHIBITED TERMS	59
52.8	SOFTWARE PIRACY PROHIBITION. SOFTWARE PIRACY PROHIBITION.....	59
52.9	EMPLOYEE FINANCIAL INTEREST/CONFLICT OF INTEREST	59
52.10	VENDOR OFFSET AND ERRONEOUS PAYMENTS	59
53	ARTICLE 53 MISCELLANEOUS PROVISIONS.....	60
53.1	PROFESSIONAL ASSOCIATION PERMITTED	60
53.2	DISSOLUTION OF PROFESSIONAL ASSOCIATION	60
53.3	WAGE RATES, in accordance with C.R.S. § 24-30-1404 (1).....	60
53.4	PUBLIC ART LAW	60
53.5	ASSIGNMENT	60
53.6	SUBCONTRACTS	60
53.7	BINDING EFFECT.....	61
53.8	AUTHORITY	61
53.9	CAPTIONS AND REFERENCES	61
53.10	COUNTERPARTS	61
53.11	ENTIRE UNDERSTANDING	61
53.12	DIGITAL SIGNATURES.....	61
53.13	MODIFICATION	61
53.14	STATUTES, REGULATIONS, FISCAL RULES AND OTHER AUTHORITY	61
53.15	EXTERNAL TERMS AND CONDITIONS.....	61
53.16	SEVERABILITY	62
53.17	SURVIVAL AND CERTAIN CONTRACT TERMS	62
53.18	TAXES	62
53.19	THIRD PARTY BENEFICIARIES	62
53.20	WAIVER	62
53.21	CORA DISCLOSURE	62
53.22	STANDARD AND MANNER OF PERFORMANCE.....	62
53.23	LICENSES, PERMITS, AND OTHER AUTHORIZATIONS.....	62
53.24	INDEMNIFICATION	63
53.25	ACCESSIBILITY	63

**STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM**

**THE GENERAL CONDITIONS OF THE CONTRACTOR'S DESIGN/BID/BUILD AGREEMENT
(STATE FORM SC-6.23)**

1 ARTICLE 1 DEFINITIONS

1.1 CONTRACT DOCUMENTS

The Contract Documents consist of the following some of which are procedural documents used in the administration and performance of the Agreement:

- a) Contractor's Design/Bid/Build Agreement; (SC-6.21);
- b) Performance Bond (SC-6.22) and Labor and Material Payment Bond (SC-6.221);
- c) General Conditions of the Contractor's Design/Bid/Build Agreement (SC- 6.23)
- d) and if applicable, Supplementary General Conditions;
- e) Detailed Specification Requirements, including all addenda issued prior to the opening of the bids; and,
- f) Drawings, including all addenda issued prior to the opening of the bids.
- g) Change Orders (SC-6.31) and Amendments (SC-6.0), if any, when properly executed.
- h) Authorization to Bid (SBP-6.10)
- i) Information for Bidders (SBP-6.12);
- j) Bid (SBP-6.13), Bid Alternates, (SBP-6.131) and Unit Pricing (SBP-6.133) if applicable
- k) Bid Bond (SBP-6.14);
- l) Labor Burden Calculation (SBP-6.18)
- m) Notice of Award (SBP-6.15);
- n) Builder's risk insurance certificates of insurance (ACORD 25-S);
- o) Liability and Workers' compensation certificates of insurance;
- p) Notice to Proceed (Design/Bid/Build) (SBP-6.26);
- q) Notice of Approval of Occupancy/Use (SBP-01);
- r) Notice of Partial Substantial Completion (SBP-071);
- s) Notice of Substantial Completion (SBP-07);
- t) Notice of Partial Final Acceptance (SC-6.27);
- u) Notice of Final Acceptance (SBP-6.271);
- v) Notice of Partial Contractor's Settlement (SC-7.3);
- w) Notice of Contractor's Settlement (SBP-7.31);
- x) Application and Certificate for Contractor's Payment (SBP-7.2);
- y) Other Procedural and Reporting Documents or Forms

Other procedural and reporting documents or forms referred to in the General Conditions, the Supplementary General Conditions, the Specifications or required by the State Buildings Program

or the Principal Representative, including but not necessarily limited to Pre-Acceptance Check List (SBP-05) and the Building Inspection Record (SBP-BIR). A list of the current standard State Buildings Program forms applicable to this Contract may be obtained from the Principal Representative on request.

1.2 DEFINITIONS OF WORDS AND TERMS USED

Agreement

The term "Agreement" shall mean the written agreement entered into by the State of Colorado acting by and through the Principal Representative and the Contractor for the performance of the Work and payment therefore, on State Form SC-6.21. The term Agreement when used without reference to State Form SC-6.21 may also refer to the entirety of the parties' agreement to perform the Work described in the Contract Documents or reasonably inferable there from. The term "Contract" shall be interchangeable with this latter meaning of the term Agreement

Amendment

The term "Amendment" means a written order signed by the Principal Representative or its authorized agent, issued after the execution of this Agreement, authorizing a change in the Work, the method or manner of performance, an adjustment in the Contract Sum, or the Contract Time as required by State Building Program's policy Contract Modification Guidelines.

Architect/Engineer

The term "Architect/Engineer" shall mean either the architect of record or the engineer of record under contract to the State of Colorado for the Project identified in the Contract Documents.

Change Order

The term "Change Order" means a written order directing the Contractor to make changes in the Work, in accordance with Article 35L, The Value of Changed Work.

Colorado Labor

The term "Colorado labor", as provided in C.R.S. § 8-17-101(2)(a), as amended, means any person who is a resident of the state of Colorado, at the time of the public Works project, without discrimination as to race, color, creed, sex, sexual orientation, marital status, national origin, ancestry, age, or religion except when sex or age is a bona fide occupational qualification. A resident of the state of Colorado is a person who can provide a valid Colorado driver's license, a valid Colorado state-issued photo identification, or documentation that he or she has resided in Colorado for the last thirty days.

Contractor

The word "Contractor" shall mean the person, company, firm, corporation or other legal entity entering into a contract with the State of Colorado acting by and through the Principal Representative

Days

The term "days" whether singular or plural shall mean calendar days unless expressly stated otherwise. Where the term "business days" is used it shall mean business days of the State of Colorado.

Drawings

The term "Drawings" shall mean all drawings approved by appropriate State officials which have been prepared by the Architect/Engineer showing the Work to be done, except that where a list of drawings is specifically enumerated in the Supplementary General Conditions or division 1 of

the Specifications, the term shall mean the drawings so enumerated, including all addenda drawings.

Emergency Field Change Order

The term "Emergency Field Change Order" shall mean a written change order for extra Work or a change in the Work necessitated by an emergency as defined in Article 35.4 executed on State form SC 6.31 and identified as an Emergency Field Change Order. The use of such orders is limited to emergencies and to the amounts shown in Article 35.4.

Final Acceptance

The terms "final acceptance" or "finally complete" mean the stage in the progress of the Work, after substantial completion, when all remaining items of Work have been completed, all requirements of the Contract Documents are satisfied and the Notice of Acceptance can be issued. Discrete physical portions of the Project may be separately and partially deemed finally complete at the discretion of the Principal Representative when that portion of the Project reaches such stage of completion and a partial Notice of Acceptance can be issued.

Fixed Limit of Construction Cost

The term "Fixed Limit of Construction Cost" shall set forth a dollar amount available for the total Construction Cost of all elements of the Work as specified by the Principal Representative.

Notice

The term "Notice" shall mean any communication in writing from either contracting party to the other by such means of delivery that receipt cannot properly be denied. Notice shall be provided to the person identified to receive it in Article 8 of the Agreement. Notice Identification, or to such other person as either party identifies in writing to receive Notice Notwithstanding an email delivery or return receipt, email Notice shall not be adequate. Acknowledgment of receipt of a voice message shall not be deemed to waive the requirement that Notice, where required, shall be in writing.

Occupancy

The term "Occupancy" means occupancy taken by the State as Owner after the Date of Substantial Completion at a time when a building or other discrete physical portion of the Project is used for the purpose intended. The Date of Occupancy shall be the date of such first use, but shall not be prior to the date of execution of the Notice of Approval of Occupancy/Use. Prior to the date of execution of a Notice of Approval of Occupancy/Use, the state shall have no right to occupy and the project may not be considered safe for occupancy for the intended use.

Owner

The term "Owner" shall mean the Principal Representative.

Principal Representative

The term "Principal Representative" shall be defined, as provided in C.R.S. § 24-30-1301(14), as the governing board of a state department, institution, or agency; or if there is no governing board, then the executive head of a state department, institution, or agency, as designated by the governor or the general assembly and as specifically identified in the Contract Documents, or shall have such other meaning as the term may otherwise be given in C.R.S. § 24-30-1301(14), as amended. The Principal Representative may delegate authority. The Contractor shall have the right to inquire regarding the delegated authority of any of the Principal Representative's representatives on the project and shall be provided with a response in writing when requested.

Product Data

The term "Product Data" shall mean all submittals in the form of printed manufacturer's literature, manufacturer's specifications, and catalog cuts.

Project

The "Project" is the total construction of which the Work performed under the Contract Documents is a part, and may include construction by the Principal Representative or by separate contractors.

Reasonably Inferable

The phrase "reasonably inferable" means that if an item or system is either shown or specified, all material and equipment normally furnished with such items or systems and needed to make a complete installation shall be provided whether mentioned or not, omitting only such parts as are specifically excepted, and shall include only components which the Contractor could reasonably anticipate based on his or her skill and knowledge using an objective, industry standard, not a subjective standard. This term takes into consideration the normal understanding that not every detail is to be given on the Drawings and Specifications. If there is a difference of opinion, the Principal Representative shall make the determination as to the standards of what reasonably inferable.

Samples

The term "Samples" shall mean examples of materials or Work provided to establish the standard by which the Work will be judged.

SBP

The term "SBP" means "State Buildings", which is used in connection with labeling applicable State form documents (e.g., "SBP-01" is the form number for Notice of Approval of Occupancy/Use).

SC

The term "SC" means "State Contract" which is used in connection with labeling applicable State form documents (e.g. "SC 6.23" is the State form number for these General Conditions of the Contractor's Design/Bid/Build Agreement).

Schedule of Values

The term "Schedule of Values" is defined as the itemized listing of description of the Work by Division and Section of the Specifications. The format shall be the same as Form SC-7.2. Included shall be the material costs, and the labor and other costs plus the sum of both.

Shop Drawings

The term "Shop Drawings" shall mean any and all detailed drawings prepared and submitted by Contractor, Subcontractor at any tier, vendors or manufacturers providing the products and equipment specified on the Drawings or called for in the Specifications.

Specifications

The term "Specifications" shall mean the requirements of the CSI divisions of the project manual prepared by the Architect/Engineer describing the Work to be accomplished.

State Buildings Program

Shall refer to the Office of the State Architect within the Department of Personnel & Administration of Colorado State government responsible for project administration, review, approval and coordination of plans, construction procurement policy, contractual procedures,

and code compliance and inspection of all buildings, public Works and improvements erected for state purposes; except public roads and highways and projects under the supervision of the division of wildlife and the division of parks and outdoor recreation as provided in C.R.S. § 24-30-1301, *et seq.* The term State Buildings Program shall also mean that individual within a State Department agency or institution, including institutions of higher education, who has signed an agreement accepting delegation to perform all or part of the responsibilities and functions of State Buildings Program.

Subcontractor

The term "Subcontractor" shall mean a person, firm or corporation supplying labor, materials, equipment and/or Services for Work at the site of the Project for, and under separate contract or agreement with the Contractor.

Submittals

The term "submittals" means drawings, lists, tables, documents and samples prepared by the Contractor to facilitate the progress of the Work as required by these General Conditions or the Drawings and Specifications. They consist of Shop Drawings, Product Data, Samples, and various administrative support documents including but not limited to lists of subcontractors, construction progress schedules, schedules of values, applications for payment, inspection and test results, requests for information, various document logs, and as-built drawings. Submittals are required by the Contract Documents, but except to the extent expressly specified otherwise are not themselves a part of the Contract Documents.

Substantial Completion

The terms "substantial completion" or "substantially complete" mean the stage in the progress of the Work when the construction is sufficiently complete, in accordance with the Contract Documents as modified by any Change Orders, so that the Work, or at the discretion of the Principal Representative, any designated portion thereof, is available for its intended use by the Principal Representative and a Notice of Substantial Completion can be issued. Portions of the Project may, at the discretion of the Principal Representative, be designated as substantially complete.

Supplier

The term "Supplier" shall mean any manufacturer, fabricator, distributor, material man or vendor.

Surety

The term "Surety" shall mean the company providing the labor and material payment and performance bonds for the Contractor as obligor.

Value Engineering

"Value Engineering" or "VE" is defined as an analysis and comparison of cost versus value of building materials, equipment, and systems. VE considers the initial cost of construction, coupled with the estimated cost of maintenance, energy use, life expectancy and replacement cost. VE related to this Project shall include the analysis and comparison of building elements in an effort to reduce overall Project costs, while maintaining or enhancing the quality of the design intent, whenever possible.

Work

The term "Work" shall mean all or part of the labor, materials, equipment, and other services required by the Contract Documents or otherwise required to be provided by the Contractor to meet the Contractor's obligations under the Contract.

2 ARTICLE 2 EXECUTION, CORRELATION, INTENT OF DOCUMENTS, COMMUNICATION AND COOPERATION

2.1 EXECUTION

The Contractor, within ten (10) days from the date of Notice of Award, will be required to:

- a) Execute the Agreement, State Form SC-6.21;
- b) Furnish fully executed Performance and Labor and Material Payment Bonds on State Forms SC-6.22 and SC-6.221; and
- c) Furnish certificates of insurance evidencing all required insurance on standard Acord forms designed for such purpose.
- d) Furnish certified copies of any insurance policies requested by the Principal Representative.
- e) If Article 7.1 of the Contractor's Design/Bid/Build Agreement (SC-6.21) applies, furnish documentation that identifies the subcontractors that will be used for all mechanical, sheet metal, fire suppression, sprinkler fitting, electrical, and plumbing work required on the project and certify that that all firms identified participate in apprenticeship programs registered with the United States Department of Labor's Employment and Training Administration or state apprenticeship councils recognized by the United States Department of Labor and have a proven record of graduating a minimum of fifteen percent of its apprentices for at least three of the past five years;

2.2 CORRELATION

By execution of the Agreement the Contractor represents that the Contractor has visited the site, has become familiar with local conditions and local requirements under which the Work is to be performed, including the building code programs of the State Buildings Program as implemented by the Principal Representative, and has correlated personal observations with the requirements of the Contract Documents.

2.3 INTENT OF DOCUMENTS

The Contract Documents are complementary, and what is called for by any one document shall be as binding as if called for by all. The intention of the documents is to include all labor, materials, equipment and transportation necessary for the proper execution of the Work. Words describing materials or Work which have a well-known technical or trade meaning shall be held to refer to such recognized standards.

In any event, if any error exists, or appears to exist, in the requirements of the Drawings or Specifications, or if any disagreement exists as to such requirements, the Contractor shall have the same explained or adjusted by the Architect/Engineer before proceeding with the Work in question. In the event of the Contractor's failure to give prior written Notice of any such errors or disagreements of which the Contractor or the Subcontractors at any tier are aware, the Contractor shall, at no additional cost to the Principal Representative, make good any damage to, or defect in, Work which is caused by such omission.

Where a conflict occurs between or within standards, Specifications or Drawings, which is not resolved by reference to the precedence between the Contract Documents, the more stringent or higher quality requirements shall apply so long as such more stringent or higher quality requirements are reasonably inferable. The Architect/Engineer shall decide which requirements will provide the best installation.

With the exception noted in the following paragraph, the precedence of the Contract Documents is in the following sequence:

- a) The Supplementary General Conditions, if any;
- b) The Colorado Special Provisions, Article 11 of this Agreement (State Form SC-5.1);
- c) The Agreement (SC-6.21);
- d) The General Conditions (SC-6.23); and
- e) Drawings and Specifications, all as modified by any addenda.

Change Orders and Amendments, if any, to the Contract Documents take precedence over the original Contract Documents.

Notwithstanding the foregoing order of precedence, the Special Provisions of Article 52 of the General Conditions, Special Provisions, shall take precedence, rule and control over all other provisions of the Contract Documents.

Unless the context otherwise requires, form numbers in this document are for convenience only. In the event of any conflict between the form required by name or context and the form required by number, the form required by name or context shall control. The Contractor may obtain State forms from the Principal Representative upon request.

2.4 PARTNERING, COMMUNICATIONS AND COOPERATION

In recognition of the fact that conflicts, disagreements and disputes often arise during the performance of construction contracts, the Contractor and the Principal Representative aspire to encourage a relationship of open communication and cooperation between the employees and personnel of both, in which the objectives of the Contract may be better achieved and issues resolved in a more fully informed atmosphere.

The Contractor and the Principal Representative each agree to assign an individual who shall be fully authorized to negotiate and implement a voluntary partnering plan for the purpose of facilitating open communications between them. Within thirty days (30) of the Notice to Proceed, the assigned individuals shall meet to discuss development of an informal agreement to accomplish these goals.

The assigned individuals shall endeavor to reach an informal agreement, but shall have no such obligation. Any plans these parties voluntarily agree to implement shall result in no change to the contract amount, and no costs associated with such plan or its development shall be recoverable under any contract clause. In addition, no plan developed to facilitate open communication and cooperation shall alter, amend or waive any of the rights or duties of either party under the Contract unless and except by written Amendment to the Contract, nor shall anything in this clause or any subsequently developed partnering plan be deemed to create fiduciary duties between the parties unless expressly agreed in a written Amendment to the Contract. It is also recognized that projects with relatively low contract values may not justify the expense or special efforts required. In the case of small projects with an initial Contract value under \$500,000, the requirements of the preceding paragraph shall not apply.

3 ARTICLE 3 COPIES FURNISHED

The Contractor will be furnished, free of charge, the number of copies of Drawings and Specifications as specified in the Contract Documents, or if no number is specified, all copies reasonably necessary for the execution of the Work.

4 ARTICLE 4 OWNERSHIP OF DRAWINGS

Drawings or Specifications, or copies of either, furnished by the Architect/Engineer, are not to be used on any other Work. At the completion of the Work, at the written request of the Architect/Engineer, the Contractor shall endeavor to return all Drawings and Specifications.

The Contractor may retain the Contractor's Contract Document set, copies of Drawings and Specifications used to contract with others for any portion of the Work and a marked up set of as-built drawings.

5 ARTICLE 5 ARCHITECT/ENGINEER'S STATUS

The Architect/Engineer is the representative of the Principal Representative for purposes of administration of the Contract, as provided in the Contract Documents and the Agreement. In case of termination of employment or the death of the Architect/Engineer, the Principal Representative will appoint a capable Architect/Engineer against whom the Contractor makes no reasonable objection, whose status under the Contract shall be the same as that of the former Architect/Engineer.

6 ARTICLE 6 ARCHITECT/ENGINEER DECISIONS AND JUDGMENTS, ACCESS TO WORK AND INSPECTION

6.1 DECISIONS

The Architect/Engineer shall, within a reasonable time, make decisions on all matters relating to the execution and progress of the Work or the interpretation of the Contract Documents, and in the exercise of due diligence shall be reasonably available to the Contractor to timely interpret and make decisions with respect to questions relating to the design or concerning the Contract Documents.

6.2 JUDGMENTS

The Architect/Engineer is, in the first instance, the judge of the performance required by the Contract Documents as it relates to compliance with the Drawings and Specifications and quality of Workmanship and materials.

The Architect/Engineer shall make judgments regarding whether directed Work is extra or outside the scope of Work required by the Contract Documents at the time such direction is first given. If, in the Contractor's judgment, any performance directed by the Architect/Engineer is not required by the Contract Documents or if the Architect/Engineer does not make the judgment required, it shall be a condition precedent to the filing of any claim for additional cost related to such directed Work that the Contractor, before performing such Work, shall first obtain in writing, the

Architect/Engineer's written decision that such directed Work is included in the performance required by the Contract Documents. If the Architect/Engineer's direction to perform the Work does not state that the Work is within the performance required by the Contract Documents, the Contractor shall, in writing, request the Architect/Engineer to advise in writing whether the directed Work will be considered extra Work or Work included in the performance required by the Contract Documents.

The Architect/Engineer shall respond to any such written request for such a decision within three (3) business days and if no response is provided, or if the Architect/Engineer's written decision is to the effect that the Work is included in the performance required by the Contract Documents, the Contractor may file with the Principal Representative and the Architect/Engineer a Notice of claim in accordance with Article 36, Claims. Whether or not a Notice of claim is filed, the Contractor shall proceed with the ordered Work. Disagreement with the decision of the Architect/Engineer shall not be grounds for the Contractor to refuse to perform the Work directed or to suspend or terminate performance.

6.3 ACCESS TO WORK

The Architect/Engineer, the Principal Representative and representatives of State Buildings Program shall at all times have access to the Work. The Contractor shall provide proper facilities for such access and for their observations or inspection of the Work.

6.4 INSPECTION

The Architect/Engineer has agreed to make, or that structural, mechanical, electrical engineers or other consultants will make, periodic visits to the site to generally observe the progress and quality of the Work to determine in general if the Work is proceeding in accordance with the Contract Documents. Observation may extend to all or any part of the Work and to the preparation, fabrication or manufacture of materials.

Without in any way meaning to be exclusive or to limit the responsibilities of the Architect/Engineer or the Contractor, the Architect/Engineer has agreed to observe, among other aspects of the Work, the following for compliance with the Contract Documents:

- a) Compaction testing reports based upon the findings and recommendations of the Principal Representative's testing consultant;
- b) Bearing surfaces of excavations before concrete is placed based upon the findings and recommendations of the Principal Representative's soils engineering consultant;
- c) Reinforcing steel after installation and before concrete is poured;
- d) Structural concrete;
- e) Laboratory reports on all concrete testing based upon the findings and recommendations of the Principal Representative's testing consultant;
- f) Structural steel during and after erection and prior to its being covered or enclosed;
- g) Steel welding; Principal Representative will furnish steel welding inspection consultant/agency if required or necessary for the project;
- h) Mechanical and plumbing Work following its installation and prior to its being covered or enclosed;
- i) Electrical Work following its installation and prior to its being covered or enclosed; and
- j) Any special or quality control testing required in the Contract Documents provided by the Principal Representative's testing consultant.

If the Specifications, the Architect/Engineer's instructions, laws, ordinances of any public authority require any Work to be specifically tested or approved, the Contractor shall give the Principal Representative, Architect/Engineer and appropriate testing agency (if necessary) timely notice of its readiness for observation by the Architect/Engineer or inspection by another authority, and if the inspection is by another authority, of the date fixed for such inspection, required certificates of inspection being secured by the Contractor. The Contractor shall give all required Notices to the Principal Representative or his or her designee for inspections required for the building inspection program. It shall be the responsibility of the Contractor to determine the Notice required by the State pursuant to Building Inspection Record for the Project, according to State form SBP-B.I.R., or the equivalent form required by the Principal Representative as approved by the State Buildings Program. If any portion of the Work should be covered contrary to the reasonable request of the Architect/Engineer, or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Architect/Engineer, be uncovered for its observation and shall be replaced at the Contractor's expense.

If any other portion of the Work has been covered which the Architect/Engineer has not specifically requested to observe prior to its being covered, it may request to see such work and it shall be uncovered by the Contractor. If such work is found in accordance with the Contract Documents, the cost of uncovering and replacement shall, by appropriate Amendment or Change Order, be charged to the Principal Representative. If such work is found not in accordance with the Contract Documents, the Contractor shall pay such costs unless it is found that this condition was caused by the Principal Representative or a separate Contractor as provided in Article 18, in which event, the Principal Representative shall be responsible for the payment of such costs.

7 ARTICLE 7 CONTRACTOR'S SUPERINTENDENCE AND SUPERVISION

The Contractor shall employ, and keep present (as applicable) on the Project during its progress, a competent project manager as satisfactory to the Principal Representative. The project manager shall not be changed except with the consent of the Principal Representative, unless the project manager proves to be unsatisfactory to the Contractor and ceases to be in his or her employ. The project manager shall represent the Contractor for the Project, and in the absence of the Contractor, all directions given to the project manager shall be as binding as if given to the Contractor. Directions received by the project manager shall be documented by the project manager and communicated in writing with the Contractor.

The Contractor shall employ, and keep present on the Project during its progress, a competent superintendent and any necessary assistants, all satisfactory to the Architect/Engineer and the Principal Representative. The superintendent shall not be changed except with the consent of the Architect/Engineer and the Principal Representative, unless the superintendent proves to be unsatisfactory to the Project Manager/Contractor and ceases to be in his or her employ. The superintendent shall represent the Project Manager/Contractor in his or her absence and all directions given to the superintendent shall be as binding as if given to the Project Manager/Contractor. Directions received by the superintendent shall be documented by the superintendent and confirmed in writing with the Project Manager/Contractor.

The Contractor shall give efficient supervision to the Work, using his or her best skill and attention. He or she shall carefully study and compare all Drawings, Specifications and other written instructions and shall without delay report any error, inconsistency or omission which he or she

may discover in writing to the Architect/Engineer. The Contractor shall not be liable to the Principal Representative for damage to the extent it results from errors or deficiencies in the Contract Documents or other instructions by the Architect/Engineer, unless the Contractor knew or had reason to know, that damage would result by proceeding and the Contractor fails to so advise the Architect/Engineer.

The superintendent shall see that the Work is carried out in accordance with the Contract Documents and in a uniform, thorough and first-class manner in every respect. The Contractor's superintendent shall establish all lines, levels, and marks necessary to facilitate the operations of all concerned in the Contractor's Work. The Contractor shall lay out all Work in a manner satisfactory to the Architect/Engineer, making permanent records of all lines and levels required for excavation, grading, foundations, and for all other parts of the Work.

8 ARTICLE 8 MATERIALS AND EMPLOYEES

Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation and other facilities necessary for the execution and completion of the Work.

Unless otherwise specified, all materials shall be new and both workmanship and materials shall be first class and of uniform quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

The Contractor is fully responsible for all acts and omissions of the Contractor's employees and shall at all times enforce strict discipline and good order among employees on the site. The Contractor shall not employ on the Work any person reasonably deemed unfit by the Principal Representative or anyone not skilled in the Work assigned to him.

9 ARTICLE 9 SURVEYS, PERMITS, LAWS, TAXES AND REGULATIONS

9.1 SURVEYS

The Principal Representative shall furnish all surveys, property lines and bench marks deemed necessary by the Architect/Engineer, unless otherwise specified.

9.2 PERMITS AND LICENSES

Permits and licenses necessary for the prosecution of the Work shall be secured and paid for by the Contractor. Unless otherwise specified in the Specifications, no local municipal or county building permit shall be required. However, State Buildings Program requires each Principal Representative to administer a building code inspection program, the implementation of which may vary at each agency or institution of the State. The Contractors' employees shall become personally familiar with these local conditions and requirements and shall fully comply with such requirements. State electrical and plumbing permits are required, unless the requirement to obtain such permits is altered by State Building's Programs. The Contractor shall obtain and pay for such permits.

Easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the Principal Representative, unless otherwise specified.

9.3 TAXES

9.3.1 Refund of Sales and Use Taxes

The Contractor shall pay all local taxes required to be paid, including but not necessarily limited to all sales and use taxes. If requested by the Principal Representative prior to issuance of the Notice to Proceed or directed in the Supplementary General Conditions or the Specifications, the Contractor shall maintain records of such payments in respect to the Work, which shall be separate and distinct from all other records maintained by the Contractor, and the Contractor shall furnish such data as may be necessary to enable the State of Colorado, acting by and through the Principal Representative, to obtain any refunds of such taxes which may be available under the laws, ordinances, rules or regulations applicable to such taxes. When so requested or directed, the Contractor shall require Subcontractors at all tiers to pay all local sales and use taxes required to be paid and to maintain records and furnish the Contractor with such data as may be necessary to obtain refunds of the taxes paid by such Subcontractors. No State sales and use taxes are to be paid on material to be used in this Project. On application by the purchaser or seller, the Department of Revenue shall issue to a Contractor or to a Subcontractor at any tier, a certificate or certificates of exemption per C.R.S. § 39-26-703(2)(b), and C.R.S. § 39-26-708.

9.3.2 Federal Taxes

The Contractor shall exclude the amount of any applicable federal excise or manufacturers' taxes from the proposal. The Principal Representative will furnish the Contractor, on request exemption certificates.

9.4 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 or specified. If the Contractor observes that the Drawings or Specifications require Work, which is at variance therewith, the Contractor shall, without delay, notify the Architect/Engineer in writing and any necessary changes shall be adjusted as provided in Article 35, Changes In The Work.

The Contractor shall bear all costs arising from the performance of Work required by the Drawings or Specifications that the Contractor knows to be contrary to such laws, ordinances, rules or regulations, if such Work is performed without giving Notice to the Architect/Engineer.

10 ARTICLE 10 PROTECTION OF WORK AND PROPERTY

10.1 GENERAL PROVISIONS

The Contractor shall continuously maintain adequate protection of all Work and materials, protect the property from injury or loss arising in connection with this Contract and adequately protect adjacent property as provided by law and the Contract Documents. The Contractor shall make good any damage, injury or loss, except to the extent:

- a) Directly due to errors in the Contract Documents;
- b) Caused by agents or employees of the Principal Representative; and,
- c) Due to causes beyond the Contractor's control and not to fault or negligence; provided such damage, injury or loss would not be covered by the insurance required to be carried by the Contractor;

10.2 SAFETY PRECAUTIONS

The Contractor shall take all necessary precautions for the safety of employees on the Project, and shall comply with all applicable provisions of federal, State and municipal safety laws and building codes to prevent accidents or injury to persons on, about or adjacent to the premises where the Work is being performed. He or she shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards for the protection of Workers and the public and shall post danger signs warning against the hazards created by such features of construction as protruding nails, hoists, well holes, elevator hatchways, scaffolding, window openings, stairways and falling materials; and he or she shall designate a responsible member of his or her organization on the Project, whose duty shall be the prevention of accidents. The name and position of any person so designated shall be reported to the Architect/Engineer by the Contractor.

The Contractor shall provide all necessary bracing, shoring and tying of all structures, decks and framing to prevent any structural failure of any material which could result in damage to property or the injury or death of persons; take all precautions to insure that no part of any structure of any description is loaded beyond its carrying capacity with anything that will endanger its safety at any time during the execution of this Contract; and provide for the adequacy and safety of all scaffolding and hoisting equipment. The Contractor shall not permit open fires within the building enclosure. The Contractor shall construct and maintain all necessary temporary drainage and do all pumping necessary to keep excavations and floors, pits and trenches free of water. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the Work, except as otherwise noted.

The Contractor shall take due precautions when obstructing sidewalks, streets or other public ways in any manner, and shall provide, erect and maintain barricades, temporary walkways, roadways, trench covers, colored lights or danger signals and any other devices necessary or required to assure the safe passage of pedestrians and automobiles.

10.3 EMERGENCIES

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/Engineer or Principal Representative, is hereby permitted to act, at his or her discretion, to prevent such threatened loss or injury; and he or she shall so act, without appeal, if so authorized or instructed. Provided the Contractor has no responsibilities for the emergency, if the Contractor incurs additional cost not otherwise recoverable from insurance or others on account of any such emergency Work, the Contract sum shall be equitably adjusted in accordance with Article 35, Changes In The Work.

11 ARTICLE 11 DRAWINGS AND SPECIFICATIONS ON THE WORK

The Contractor shall keep on the job site one copy of the Contract Documents in good order, including current copies of all Drawings and Specifications for the Work, and any approved Shop Drawings, Product Data or Samples, and as-built drawings. As-built drawings shall be updated weekly by the Contractor and Subcontractors to reflect actual constructed conditions including dimensioned locations of underground Work and the Contractor's failure to maintain such updates may be grounds to withhold portions of payments otherwise due in accordance with Article 33, Payments Withheld. All such documents shall be available to the Architect/Engineer

and representatives of the State. In addition, the Contractor shall keep on the job site one copy of all approved addenda, Change Orders and requests for information issued for the Work.

The Contractor shall develop procedures to insure the currency and accuracy of as-built drawings and shall maintain on a current basis a log of requests for information and responses thereto, a Shop Drawing and Product Data submittal log, and a Sample submittal log to record the status of all necessary and required submittals.

12 ARTICLE 12 REQUESTS FOR INFORMATION AND SCHEDULES

12.1 REQUESTS FOR INFORMATION

The Architect/Engineer shall furnish additional instructions with reasonable promptness, 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 and reasonably inferable there from. The Architect/Engineer shall determine what additional instructions or drawings are necessary for the proper execution of the Work.

The Work shall be executed in conformity with such instructions and the Contractor shall do no Work without proper drawings, specifications or instructions. If the Contractor believes additional instructions, specifications or drawings are needed for the performance of any portion of the Work, the Contractor shall give Notice of such need in writing through a request for information furnished to the Architect/Engineer sufficiently in advance of the need for such additional instructions, specifications or drawings to avoid delay and to allow the Architect/Engineer a reasonable time to respond. The Contractor shall maintain a log of the requests for information and the responses provided.

12.2 SCHEDULES

12.2.1 Submittal Schedules

Prior to filing the Contractor's first application for payment, a schedule shall be prepared which may be preliminary to the extent required, fixing the dates for the submission and initial review of required Shop Drawings, Product Data and Samples for the beginning of manufacture and installation of materials, and for the completion of the various parts of the Work. It shall be prepared so as to cause no delay in the Work or in the Work of any other contractor. The schedule shall be subject to change from time to time in accordance with the progress of the Work, and it shall be subject to the review and approval by the Architect/Engineer. It shall fix the dates at which the various Shop Drawings Product Data and Samples will be required from the Architect/Engineer. The Architect/Engineer, after review and agreement as to the time provided for initial review, shall review and comment on the Shop Drawings, Product Data and Samples in accordance with that schedule. The schedule shall be finalized, prepared and submitted with respect to each of the elements of the Work in time to avoid delay, considering reasonable periods for review, manufacture or installation.

At the time the schedule is prepared, the Contractor, the Architect/Engineer and Principal Representative shall jointly identify the Shop Drawing, Product Data and Samples, if any, which the Principal Representative shall receive simultaneously with the Architect/Engineer for the purposes of owner coordination with existing facility standards and systems. The Contractor shall furnish a copy for the Principal Representative when so requested. Transmittal of Shop Drawings and Product Data copies to the Principal Representative shall be solely for the convenience of the

Principal Representative and shall neither create nor imply responsibility or duty of review by the Principal Representative.

The Contractor may also, or at the direction of the Principal Representative at any time shall, prepare and maintain a schedule, which may also be preliminary and subject to change to the extent required, fixing the dates for the initial responses to requests for information or for detail drawings which will be required from the Architect/Engineer to allow the beginning of manufacture, installation of materials and for the completion of the various parts of the Work. The schedule shall be subject to review and approval by the Architect/Engineer. The Architect/Engineer shall, after review and agreement, furnish responses and detail drawings in accordance with that schedule. Any such schedule shall be prepared and approved in time to avoid delay, considering reasonable periods for review, manufacture or installation, but so long as the request for information schedule is being maintained, it shall not be deemed to transfer responsibility to the Contractor for errors or omissions in the Contract Documents where circumstances make timely review and performance impossible.

The Architect/Engineer shall not unreasonably withhold approval of the Contractor's schedules and shall inform the Contractor and the Principal Representative of the basis of any refusal to agree to the Contractor's schedules. The Principal Representative shall attempt to resolve any disagreements.

12.2.2 Schedule of Values

Within twenty-one (21) calendar days after the date of the Notice to Proceed, the Contractor shall submit to the Architect/Engineer and Principal Representative, for approval, and to the State Buildings Program when specifically requested, a complete itemized schedule of the values of the various parts of the Work, as estimated by the Contractor, aggregating the total price. The schedule of values shall be in such detail as the Architect/Engineer or the Principal Representative shall require, prepared on forms acceptable to the Principal Representative. It shall, at a minimum, identify on a separate line each division of the Specifications including the general conditions costs to be charged to the Project. The Contractor shall revise and resubmit the schedule of values for approval when, in the opinion of the Architect/Engineer or the Principal Representative, such resubmittal is required due to changes or modifications to the Contract Documents or the Contract sum.

The total cost of each line item so separately identified shall, when requested by the Architect/Engineer or the Principal Representative, be broken down into reasonable estimates of the value of:

- a) Material, which shall include the cost of material actually built into the Project plus any local sales or use tax paid thereon; and,
- b) Labor and other costs.

The cost of subcontracts shall be incorporated in the Contractor's schedule of values, and when requested by the Architect/Engineer or the Principal Representative, shall be separately shown as line items.

The Architect/Engineer shall review the proposed schedules and approve it after consultation with the Principal Representative, or advise the Contractor of any required revisions within ten (10) days of its receipt. In the event no action is taken on the submittal within ten days, the Contractor may utilize the schedule of values as its submittal for payment until it is approved or until revisions are requested.

When the Architect/Engineer deems it appropriate to facilitate certification of the amounts due to the Contractor, further breakdown of subcontracts, including breakdown by labor and materials, may be directed.

This schedule of values, when approved, will be used in preparing Contractor's applications for payment on State Form SC-7.2, Application for Payment.

12.2.3 Construction Schedules

Within twenty-one (21) calendar days after the date of the Notice to Proceed, the Contractor shall submit to the Architect/Engineer and the Principal Representative, and to the State Buildings Program when specifically requested, on a form acceptable to them, an overall timetable of the construction schedule for the Project. Unless the Supplementary General Conditions or the Specifications allow scheduling with bar charts or other less sophisticated scheduling tools, the Contractor's schedule shall be a critical-path method (CPM) construction schedule. The CPM schedule shall start with the date of the Notice to Proceed and include submittals activities, the various construction activities, change order Work (when applicable), close-out, testing, demonstration of equipment operation when called for in the Specifications, and acceptance. The CPM schedule shall at a minimum correlate to the schedule of values line items and shall be cost loaded if requested by the Architect/Engineer or Principal Representative. The completion time shall be the time specified in the Agreement and all Project scheduling shall allocate float utilizing the full period available for construction as specified in the Agreement on State Form SC 6.13, without indication of early completion, unless such earlier completion is approved in writing by the Principal Representative and State Building Programs.

The time shown between the starting and completion dates of the various elements within the construction schedule shall represent one hundred per cent (100%) completion of each element.

All other elements of the CPM schedule shall be as required by the Specifications. In addition, the Contractor shall submit monthly updates or more frequently, if required by the Principal Representative, updates of the construction schedule. These updates shall reflect the Contractor's "Work in place" progress.

When requested by the Architect/Engineer, the Principal Representative or the State Buildings Program, the Contractor shall revise the construction schedule to reflect changes in the schedule of values.

When the testing of materials is required by the Specifications, the Contractor shall also prepare and submit to the Architect/Engineer and the Principal Representative a schedule for testing in accordance with Article 14, Samples and Testing.

13 ARTICLE 13 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

13.1 SUBMITTAL PROCESS

The Contractor shall check and field verify all dimensions. The Contractor shall check, approve and submit to the Architect/Engineer in accordance with the schedule described in Article 12, Requests for Information and Schedules, all Shop Drawings, Product Data and Samples required by the specifications or required by the Contractor for the Work of the various trades. All Drawings and Product Data shall contain identifying nomenclature and each submittal shall be accompanied by a letter of transmittal identifying in detail all enclosures. The number of copies

of Shop Drawings and Product Data to be submitted shall be as specified in the Specifications and if no number is specified then three copies shall be submitted.

The Architect/Engineer shall review and comment on the Shop Drawings and Product Data within the time provided in the agreed upon schedule for conformance with information given and the design concept expressed in, or reasonably inferred from, the Contract Documents. The nature of all corrections to be made to the Shop Drawings and Product Data, if any, shall be clearly noted, and the submittals shall be returned to the Contractor for such corrections. If a change in the scope of the Work is intended by revisions requested to any Shop Drawings and Product Data, the Contractor shall be requested to prepare a change proposal in accordance with Article 35, Changes In The Work. On resubmitted Shop Drawings, Product Data or Samples, the Contractor shall direct specific attention in writing on the transmittal cover to revisions other than those corrections requested by the Architect/Engineer on any previously checked submittal. The Architect/Engineer shall promptly review and comment on, and return, the resubmitted items.

The Contractor shall thereafter furnish such other copies in the form approved by the Architect/Engineer as may be needed for the prosecution of the Work.

13.2 FABRICATION AND ORDERING

Fabrication shall be started by the Contractor only after receiving approved Shop Drawings from the Architect/Engineer. Materials shall be ordered in accordance with approved Product Data. Work which is improperly fabricated, whether through incorrect Shop Drawings, faulty workmanship or materials, will not be acceptable.

13.3 DEVIATIONS FROM DRAWINGS OR SPECIFICATIONS

The review and comments of the Architect/Engineer of Shop Drawings, Product Data or Samples shall not relieve the Contractor from responsibility for deviations from the Drawings or Specifications, unless he or she has in writing called the attention of the Architect/Engineer to such deviations at the time of submission, nor shall it relieve the Contractor from responsibility for errors of any sort in Shop Drawings or Product Data. Review and comments on Shop Drawings or Product Data containing identified deviations from the Contract Documents shall not be the basis for a Change Order or a claim based on a change in the scope of the Work unless Notice is given to the Architect/Engineer and Principal Representative of all additional costs, time and other impacts of the identified deviation by bring it to their attention in writing at the time the submittals are made, and any subsequent change in the Contract sum or the Contract time shall be limited to cost, time and impacts so identified.

13.4 CONTRACTOR REPRESENTATIONS

By preparing, approving, and/or submitting Shop Drawings, Product Data and Samples, the Contractor represents that the Contractor has determined and verified all materials, field measurements, and field construction criteria related thereto, and has checked and coordinated the information contained within each submittal with the requirements of the Work, the Project and the Contract Documents and prior reviews and approvals.

14 ARTICLE 14 SAMPLES AND TESTING

14.1 SAMPLES

The Contractor shall furnish for approval, with such promptness as to cause no delay in his or her Work or in that of any other Contractor, all Samples as directed by the Architect/Engineer. The Architect/Engineer shall check and approve such Samples, with reasonable promptness, but only for conformance with the design intent of the Contract Documents and the Project, and for compliance with any submission requirements given in the Contract Documents.

14.2 TESTING - GENERAL

The Contractor shall provide such equipment and facilities as the Architect/Engineer may require for conducting field tests and for collecting and forwarding samples to be tested. Samples themselves shall not be incorporated into the Work after approval without the permission of the Architect/Engineer.

All materials or equipment proposed to be used may be tested at any time during their preparation or use. The Contractor shall furnish the required samples without charge and shall give sufficient Notice of the placing of orders to permit the testing thereof. Products may be sampled either prior to shipment or after being received at the site of the Work.

Tests shall be made by an accredited testing laboratory. Except as otherwise provided in the Specifications, sampling and testing of all materials, and the laboratory methods and testing equipment, shall be in accordance with the latest standards and tentative methods of the American Society of Testing Materials (ASTM). The cost of testing which is in addition to the requirements of the Specifications shall be paid by the Contractor if so directed by the Architect/Engineer, and the Contract sum shall be adjusted accordingly by Change Order; provided however, that whenever testing shows portions of the Work to be deficient, all costs of testing including that required to verify the adequacy of repair or replacement Work shall be the responsibility of the Contractor.

14.3 TESTING - CONCRETE AND SOILS

Unless otherwise specified or provided elsewhere in the Contract Documents, the Principal Representative will contract for and pay for the testing of concrete and for soils compaction testing through an independent laboratory or laboratories selected and approved by the Principal Representative. The Contractor shall assume the responsibility of arranging, scheduling and coordinating the concrete sample collection efforts and soils compaction efforts in an efficient and cost effective manner. Testing shall be performed in accordance with the requirements of the Specifications, and if no requirements are specified, the Contractor shall request instructions and testing shall be as directed by the Architect/Engineer or the soils engineer, as applicable, and in accordance with standard industry practices.

The Principal Representative and the Architect/Engineer shall be given reasonable advance notice of each concrete pour and reserve the right to either increase or decrease the number of cylinders or the frequency of tests.

Soil compaction testing shall be at random locations selected by the soils engineer. In general, soils compaction testing shall be as directed by the soils engineer and shall include all substrate prior to backfill or construction.

14.4 TESTING - OTHER

Additional testing required by the Specifications will be accomplished and paid for by the Principal Representative in a manner similar to that for concrete and soils unless noted otherwise in the Specifications. In any case, the Contractor will be responsible for arranging, scheduling and coordinating additional tests. Where the additional testing will be contracted and paid for by the Principal Representative the Contractor shall give the Principal Representative not less than one-month advance written Notice of the date the first such test will be required.

15 ARTICLE 15 SUBCONTRACTS

15.1 CONTRACT PERFORMANCE OUTSIDE OF THE UNITED STATES OR COLORADO

After the contract is awarded, Contractor is required to provide written notice to the Principal Representative no later than twenty (20) days after deciding to perform services under this contract outside the United States or Colorado or to subcontract services under this contract to a subcontractor that will perform such services outside the United States or Colorado. The written notification must include, but need not be limited to, a statement of the type of services that will be performed at a location outside the United States or Colorado and the reason why it is necessary or advantageous to go outside the United States or Colorado to perform the services. All notices received by the State pursuant to outsourced services shall be posted on the Colorado Department of Personnel & Administration's website. If Contractor knowingly fails to notify the Principal Representative of any outsourced services as specified herein, the Principal Representative, at its discretion, may terminate this contract as provided in the Colorado Procurement Code or the applicable procurement code for institutions of higher education (Does not apply to any project that receives federal moneys)

15.2 SUBCONTRACTOR LIST

Prior to the Notice to Proceed to commence construction, the Contractor shall submit to the Architect/Engineer, the Principal Representative and State Buildings Program a preliminary list of Subcontractors. It shall be as complete as possible at the time, showing all known Subcontractors planned for the Work. The list shall be supplemented as other Subcontractors are determined by the Contractor and any such supplemental list shall be submitted to the Architect/Engineer, the Principal Representative and State Buildings Program not less than ten (10) days before the Subcontractor commences Work.

15.3 SUBCONTRACTOR SUBSTITUTIONS

The Contractor's list shall include those Subcontractors, if any, which the Contractor indicated in its bid, would be employed for specific portions of the Work if such indication was requested in the bid documents issued by the State. The substitution of any Subcontractor listed in the Contractor's bid shall be justified in writing not less than ten (10) days after the date of the Notice to Proceed to commence construction, and shall be subject to the approval of the Principal Representative. For reasons such as the Subcontractor's refusal to perform as agreed, subsequent unavailability or later discovered bid errors, or other similar reasons, but not including the availability of a lower Subcontract price, such substitution may be approved. The Contractor shall bear any additional cost incurred by such substitutions.

15.4 CONTRACTOR RESPONSIBLE FOR SUBCONTRACTORS

The Contractor shall not employ any Subcontractor that the Architect/Engineer, within ten (10) days after the date of receipt of the Contractor's list of Subcontractors or any supplemental list, objects to in writing as being unacceptable to either the Architect/Engineer, the Principal Representative or State Buildings Program. If a Subcontractor is deemed unacceptable, the Contractor shall propose a substitute Subcontractor and the Contract sum shall be adjusted by any demonstrated difference between the Subcontractor's bids, except where the Subcontractor has been debarred by the State or fails to meet qualifications of the Contract Documents to perform the Work proposed.

The Contractor shall be fully responsible to the Principal Representative for the acts and omissions of Subcontractors and of persons either directly or indirectly employed by them. All instructions or orders in respect to Work to be done by Subcontractors shall be given to the Contractor.

16 ARTICLE 16 RELATIONS OF CONTRACTOR AND SUBCONTRACTOR

The Contractor agrees to bind each Subcontractor to the terms of these General Conditions and to the requirements of the Drawings and Specifications, and any Addenda thereto, and also all the other Contract Documents, so far as applicable to the Work of such Subcontractor. The Contractor further agrees to bind each Subcontractor to those terms of the General Conditions which expressly require that Subcontractors also be bound, including without limitation, requirements that Subcontractors waive all rights of subrogation, provide adequate general commercial liability and property insurance, automobile insurance and workers' compensation insurance as provided in Article 25, Insurance.

Nothing contained in the Contract Documents shall be deemed to create any contractual relationship whatsoever between any Subcontractor and the State of Colorado acting by and through its Principal Representative.

17 ARTICLE 17 MUTUAL RESPONSIBILITY OF CONTRACTORS

Should the Contractor cause damage to any separate contractor on the Work, the Contractor agrees, upon due Notice, to settle with such contractor by agreement, if he or she will so settle. If such separate contractor sues the Principal Representative on account of any damage alleged to have been so sustained, the Principal Representative shall notify the Contractor, who shall defend such proceedings if requested to do so by Principal Representative. If any judgment against the Principal Representative arises there from, the Contractor shall pay or satisfy it and pay all costs and reasonable attorney fees incurred by the Principal Representative, in accordance with Article 53.8, Indemnification, provided the Contractor was given due Notice of an opportunity to settle.

18 ARTICLE 18 SEPARATE CONTRACTS

The Principal Representative reserves the right to enter into other contracts in connection with the Project or the Contract. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their Work, and shall

properly connect and coordinate his or her Work with theirs. 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 Architect/Engineer any defects in such Work that render it unsuitable for such proper execution and results. Failure of the Contractor to so inspect and report shall constitute an acceptance of the other contractor's Work as fit and proper for the reception of Work, except as to defects which may develop in the other Contractor's Work after the execution of the Contractor's Work.

To insure the proper execution of subsequent Work, the Contractor shall measure Work already in place and shall at once report to the Architect/Engineer any discrepancy between the executed Work and the Drawings.

19 ARTICLE 19 USE OF PREMISES

The Contractor shall confine apparatus, the storage of materials and the operations of workmen to limits indicated by law, ordinances, permits and any limits lines shown on the Drawings. The Contractor shall not unreasonably encumber the premises with materials.

The Contractor shall enforce all of the Architect/Engineer's instructions and prohibitions regarding, without limitation, such matters as signs, advertisements, fires and smoking.

20 ARTICLE 20 CUTTING, FITTING OR PATCHING

The Contractor shall do all cutting, fitting or patching of Work that may be required to make its several parts come together properly and fit it to receive or be received by Work of other Contractors shown upon, or reasonably inferred from, the Drawings and Specifications for the complete structure, and shall provide for such finishes to patched or fitted Work as the Architect/Engineer may direct. 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 other Contractor save with the consent of the Architect/Engineer.

21 ARTICLE 21 UTILITIES

21.1 TEMPORARY UTILITIES

Unless otherwise specifically stated in the Specifications or on the Drawings, the Principal Representative shall be responsible for the locations of all utilities as shown on the Drawings or indicated elsewhere in the Specifications, subject to the Contractor's compliance with all statutory or regulatory requirements to call for utility locates. When actual conditions deviate from those shown the Contractor shall comply with the requirements of Article 37, Differing Site Conditions. The Contractor shall provide and pay for the installation of all temporary utilities required to supply all the power, light and water needed by him and other Contractors for their Work and shall install and maintain all such utilities in such manner as to protect the public and Workmen and conform with any applicable laws and regulations. Upon completion of the Work, he or she shall remove all such temporary utilities from the site. The Contractor shall pay for all consumption of power, light and water used by him or her and the other Contractors, without regard to whether such items are metered by temporary or permanent meters. The

Superintendent shall have full authority over all trades and Subcontractors at any tier to prevent waste. The cut-off date on permanent meters shall be either the agreed date of the date of the Notice of Substantial Completion or the Notice of Approval of Occupancy/Use of the Project.

21.2 PROTECTION OF EXISTING UTILITIES

Where existing utilities, such as water mains, sanitary sewers, storm sewers and electrical conduits, are shown on the Drawings, the Contractor shall be responsible for the protection thereof, without regard to whether any such utilities are to be relocated or removed as a part of the Work. If any utilities are to be moved, the moving must be conducted in such manner as not to cause undue interruption or delay in the operation of the same.

21.3 CROSSING OF UTILITIES

When new construction crosses highways, railroads, streets, or utilities under the jurisdiction of State, city or other public agency, public utility or private entity, the Contractor shall secure proper written permission before executing such new construction. The Contractor will be required to furnish a proper release before final acceptance of the Work.

22 ARTICLE 22 UNSUITABLE CONDITIONS

The Contractor shall not Work at any time, or permit any Work to be done, under any conditions contrary to those recommended by manufacturers or industry standards which are otherwise proper, unsuited for proper execution, safety and performance. Any cost caused by ill-timed Work shall be borne by the Contractor unless the timing of such Work shall have been directed by the Architect/Engineer or the Principal Representative, after the award of the Contract, and the Contractor provided Notice of any additional cost.

23 ARTICLE 23 TEMPORARY FACILITIES

23.1 OFFICE FACILITIES

The Contractor shall provide and maintain without additional expense for the duration of the Project temporary office facilities, as required and as specified, for its own use and the use of the Architect/Engineer, representatives of the Principal Representative and State Buildings Program.

23.2 TEMPORARY HEAT

The Contractor shall furnish and pay for all the labor, facilities, equipment, fuel and power necessary to supply temporary heating, ventilating and air conditioning, except to the extent otherwise specified, and shall be responsible for the installation, operation, maintenance and removal of such facilities and equipment. Unless otherwise specified, the permanent HVAC system shall not be used for temporary heat in whole or in part. If the Contractor desires to put the permanent system into use, in whole or in part, the Contractor shall set it into operation and furnish the necessary fuel and manpower to safely operate, protect and maintain that HVAC system. Any operation of all or any part of the permanent HVAC system including operation for testing purposes shall not constitute acceptance of the system, nor shall it relieve the Contractor of his or her one-year guarantee of the system from the date of the Notice of Substantial Completion of the entire Project, and if necessary due to prior operation, the Contractor shall

provide manufacturers' extended warranties from the date of the Contractor's use prior to the date of the Notice of Substantial Completion.

23.3 WEATHER PROTECTION

The Contractor shall, at all times, provide protection against weather, so as to maintain all Work, materials, apparatus and fixtures free from injury or damages.

23.4 DUST PARTITIONS

If the Work involves Work in an occupied existing building, the Contractor shall erect and maintain during the progress of the Work, suitable dust-proof temporary partitions, or more permanent partitions as specified, to protect such building and the occupants thereof.

23.5 BENCH MARKS

The Contractor shall maintain any site bench marks provided by the Principal Representative and shall establish any additional benchmarks specified by the Architect/Engineer as necessary for the Contractor to layout the Work and ascertain all grades and levels as needed.

23.6 SIGN

The Contractor shall erect and permit one 4' x 8' sign only at the site to identify the Project as specified or directed by the Architect/Engineer which shall be maintained in good condition during the life of the Project.

23.7 SANITARY PROVISION

The Contractor shall provide and maintain suitable, clean, temporary sanitary toilet facilities for any and all workmen engaged on the Work, for the entire construction period, in strict compliance with the requirement of all applicable codes, regulations, laws and ordinances, and no other facilities, new or existing, may be used by any person on the Project. When the Project is complete the Contractor shall promptly remove them from the site, disinfect, and clean or treat the areas as required. If any new construction surfaces in the Project other than the toilet facilities provided for herein are soiled at any time, the entire areas so soiled shall be completely removed from the Project and rebuilt. In no event may present toilet facilities of any existing building at the site of the Work be used by employees of any contractor.

24 ARTICLE 24 CLEANING UP

The Contractor shall keep the building and premises free from all surplus material, waste material, dirt and rubbish caused by employees or Work, and at the completion of the Work shall remove all such surplus material, waste material, dirt, and rubbish, as well as all tools, equipment and scaffolding, and shall wash and clean all window glass and plumbing fixtures, perform cleanup and cleaning required by the Specifications and leave all of the Work clean unless more exact requirements are specified.

25 ARTICLE 25 INSURANCE

25.1 GENERAL

The Contractor shall procure and maintain all insurance requirements and limits as set forth below, at his or her own expense, for the length of time set forth in Contract requirements. The Contractor shall continue to provide evidence of such coverage to State of Colorado on an annual basis during the aforementioned period including all of the terms of the insurance and indemnification requirements of this agreement. All below insurance policies shall include a provision preventing cancellation without thirty (30) days’ prior notice by certified mail. A completed Certificate of Insurance shall be filed with the Principal Representative and State Buildings Program within ten (10) days after the date of the Notice of Award, said Certificate to specifically state the inclusion of the coverages and provisions set forth herein and shall state whether the coverage is “claims made” or “per occurrence”.

25.2 COMMERCIAL GENERAL LIABILITY INSURANCE (CGL)

This insurance must protect the Contractor from all claims for bodily injury, including death and all claims for destruction of or damage to property (other than the Work itself), arising out of or in connection with any operations under this Contract, whether such operations be by the Contractor or by any Subcontractor under him or anyone directly or indirectly employed by the Contractor or by a Subcontractor. All such insurance shall be written with limits and coverages as specified below and shall be written on an occurrence form.

General Aggregate	\$2,000,000
Products – Completed Operations Aggregate	\$2,000,000
Each Occurrence	\$1,000,000
Personal Injury	\$1,000,000

The following coverages shall be included in the CGL:

- a) Per project general aggregate (CG 25 03 or similar)
- b) Additional Insured status in favor of the State of Colorado and any other parties as outlined in The Contract and must include both ONGOING Operations AND COMPLETED Operations per CG2010 10/01 and CG 2037 10/01 or equivalent as permitted by law.
- c) The policy shall be endorsed to be **primary and non-contributory** with any insurance maintained by Additional Insureds.
- d) A waiver of Subrogation in favor of all Additional Insured parties.
- e) Personal Injury Liability
- f) Contractual Liability coverage to support indemnification obligation per Article 53.8
- g) Explosion, collapse and underground (xcu)

The following exclusionary endorsements are prohibited in the CGL policy:

- a) Damage to Work performed by Subcontract/Vendor (CG 22-94 or similar)
- b) Contractual Liability Coverage Exclusion modifying or deleting the definition of an “insured contract” from the unaltered SO CG 0001 1001 policy from (CG 24 26 or similar)
- c) If applicable to the Work to be performed: Residential or multi-family
- d) If applicable to the Work to be performed: Exterior insulation finish systems
- e) If applicable to the Work to be performed: Subsidence or Earth Movement

The Contractor shall maintain general liability coverage including Products and Completed Operations insurance, and the Additional Insured with primary and non-contributory coverage as specified in this Contract for three (3) years after completion of the project.

25.3 AUTOMOBILE LIABILITY INSURANCE

Automobile and business auto liability covering liability arising out of any auto (including owned, hired and non-owned autos).

Combined Bodily Injury and Property Damage Liability (Combined Single Limit):	\$1,000,000 each accident
Coverages:	Specific waiver of subrogation

25.4 WORKERS' COMPENSATION INSURANCE

The Contractor shall procure and maintain Workers' Compensation Insurance at his or her own expense during the life of this Contract, including occupational disease provisions for all employees per statutory requirements. Policy shall contain a waiver of subrogation in favor of the State of Colorado.

The Contractor shall also require each Subcontractor to furnish Workers' Compensation Insurance, including occupational disease provisions for all of the latter's employees, and to the extent not furnished, the Contractor accepts full liability and responsibility for Subcontractor's employees.

In cases where any class of employees engaged in hazardous Work under this Contract at the site of the Project is not protected under the Workers' Compensation statute, the Contractor shall provide, and shall cause each Subcontractor to provide, adequate and suitable insurance for the protection of employees not otherwise protected.

25.5 UMBRELLA LIABILITY INSURANCE

(For construction projects exceeding \$10,000,000, provide the following coverage)

The Contractor shall maintain umbrella/excess liability insurance on an occurrence basis in excess of the underlying insurance described in Section B-D above. Coverage shall follow the terms of the underlying insurance, included the additional insured and waiver of subrogation provisions. The amounts of insurance required in Sections above may be satisfied by the Contractor purchasing coverage for the limits specified or by any combination of underlying and umbrella limits, so long as the total amount of insurance is not less than the limits specified in each section previously mentioned.

Each occurrence	\$5,000,000
Aggregate	\$5,000,000

25.6 BUILDER'S RISK INSURANCE

Unless otherwise expressly stated in the Supplementary General Conditions (e.g. where the State elects to provide for projects with a completed value of less than \$1,000,000), the Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent

Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made or until no person or entity other than the Owner has an insurable interest in the property, or the Date of Notice specified on the Notice of Acceptance, State Form SBP-6.27 or whichever is later.

This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project as named insureds.

All associated deductibles shall be the responsibility of the Contractor. Such policy may have a deductible clause but not to exceed ten thousand dollars (\$10,000.00).

Property insurance shall be on an "all risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, false Work, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

Contractor shall maintain Builders Risk coverage including partial use by Owner.

The Contractor shall waive all rights of subrogation as regards the State of Colorado and the Principal Representative, its officials, its officers, its agents and its employees, all while acting within the scope and course of their employment for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section or other property insurance applicable to the Work. The Contractor shall require all Subcontractors at any tier to similarly waive all such rights of subrogation and shall expressly include such a waiver in all subcontracts.

Upon request, the amount of such insurance shall be increased to include the cost of any additional Work to be done on the Project, or materials or equipment to be incorporated in the Project, under other independent contracts let or to be let. In such event, the Contractor shall be reimbursed for this cost as his or her share of the insurance in the same ratio as the ratio of the insurance represented by such independent contracts let or to be let to the total insurance carried.

The Principal Representative, with approval of the State Controller, shall have the power to adjust and settle any loss. Unless it is agreed otherwise, all monies received shall be applied first on rebuilding or repairing the destroyed or injured Work.

25.7 POLLUTION LIABILITY INSURANCE

If Contractor is providing directly or indirectly Work with pollution/environmental hazards, the Contractor must provide or cause those conducting the Work to provide Pollution Liability Insurance coverage. Pollution Liability policy must include contractual liability coverage. State of Colorado must be included as additional insureds on the policy. The policy limits shall be in the amount of \$1,000,000 with maximum deductible of \$25,000 to be paid by the Subcontractor/Vendor.

25.8 ADDITIONAL MISCELLANEOUS INSURANCE PROVISIONS

Certificates of Insurance and/or insurance policies required under this Contract shall be subject to the following stipulations and additional requirements:

- a) Any and all deductibles or self-insured retentions contained in any Insurance policy shall be assumed by and at the sole risk of the Contractor;
- b) If any of the said policies shall fail at any time to meet the requirements of the Contract Documents as to form or substance, or if a company issuing any such policy shall be or at any time cease to be approved by the Division of Insurance of the State of Colorado, or be or cease to be in compliance with any stricter requirements of the Contract Documents, the Contractor shall promptly obtain a new policy, submit the same to the Principal Representative and State Building Programs for approval if requested, and submit a Certificate of Insurance as hereinbefore provided. Upon failure of the Contractor to furnish, deliver and maintain such insurance as provided herein, this Contract, in the sole discretion of the State of Colorado, may be immediately declared suspended, discontinued, or terminated. Failure of the Contractor in obtaining and/or maintaining any required insurance shall not relieve the Contractor from any liability under the Contract, nor shall the insurance requirements be construed to conflict with the obligations of the Contractor concerning indemnification;
- c) All requisite insurance shall be obtained from financially responsible insurance companies, authorized to do business in the State of Colorado and acceptable to the Principal Representative;
- d) Receipt, review or acceptance by the Principal Representative of any insurance policies or certificates of insurance required by this Contract shall not be construed as a waiver or relieve the Contractor from its obligation to meet the insurance requirements contained in these General Conditions.

26 ARTICLE 26 CONTRACTOR'S PERFORMANCE AND PAYMENT BONDS

The Contractor shall furnish a Performance Bond and a Labor and Material Payment Bond on State Forms SC-6.22, Performance Bond, and SC-6.221, Labor and Material Payment Bond, or such other forms as State Buildings Program may approve for the Project, executed by a corporate Surety authorized to do business in the State of Colorado and in the full amount of the Contract sum. The expense of these bonds shall be borne by the Contractor and the bonds shall be filed with State Buildings Program.

If, at any time, a Surety on such a bond is found to be, or ceases to be in strict compliance with any qualification requirements of the Contract Documents or the bid documents, or loses its right to do business in the State of Colorado, another Surety will be required, which the Contractor shall furnish to State Buildings Program within ten (10) days after receipt of Notice from the State or after the Contractor otherwise becomes aware of such conditions.

27 ARTICLE 27 LABOR AND WAGES

27.1 COLORADO LABOR

In accordance with laws of Colorado, C.R.S. § 8-17-101(1), as amended, Colorado labor shall be employed to perform at least eighty percent of the Work.

27.2 PREVAILING WAGE RATES

In accordance with laws of Colorado, C.R.S. § 24-92 Part 2, if prevailing wage rates are applicable to this project:

- a) The contractor shall in conspicuous places on the project post an owner provided poster with the current prevailing rate of payments as provided in the project solicitation.
 1. A contractor who fails to comply shall be deemed guilty of a class 3 misdemeanor and shall pay the State one hundred dollars (\$100) for each calendar day of noncompliance as determined by the State.
- b) The contractor and any subcontractors shall pay all the employees employed directly on the site of the work, unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment computed at wage rates not less than those stated in the competitive solicitation, regardless of any contractual relationships that may be alleged to exist between the contractor or subcontractor and the employees.
- c) The contractor and any subcontractors shall prepare and submit electronic payroll reports to the State in a format approved by OSA on a monthly basis that disclose all relevant payroll information, including the name and address of any entities to which fringe benefits are paid.
- d) The contractor and any subcontractors shall maintain on the site where public projects are being constructed a daily log of employees employed each day on the public project. The log shall include, at a minimum, for each employee his or her name, primary job title, and employer, and shall be kept on a form prescribed by the director. The log shall be available for inspection on the site at all times by the State.
- e) If the contractor or any subcontractor fails to pay wages as are required by the contract, the State shall not approve a warrant or demand for payment to the contractor until the contractor furnishes the State evidence satisfactory to such agency of government that such wages have been paid; except that the State shall approve and pay any portion of a warrant or demand for payment to the contractor to the extent the State has been furnished satisfactory evidence that the contractor or one or more subcontractors has paid such wages required by the contract, The contractor or subcontractor may use the following procedure in order to satisfy the requirements of this section:
 1. The contractor or subcontractor may submit to the State, for each employee to whom such wages are due, a check payable to that employee or to the State so it is negotiable by either party. Each such check shall be in an amount representing the difference between the accrued wages required to be paid to that employee by the contract and the wages actually paid by the contractor or subcontractor.
 2. If any check submitted cannot be delivered to the employee within a reasonable period, then it shall be negotiated by the State and the proceeds deposited in the unclaimed property trust fund created in section 38-13-116.6. Nothing in this subsection (1) shall be construed to lessen the responsibility of the contractor or subcontractor to attempt to locate and pay any employee to whom wages are due.

28 ARTICLE 28 ROYALTIES AND PATENTS

The Contractor shall be responsible for assuring that all rights to use of products and systems have been properly arranged and shall take such action as may be necessary to avoid delay, at no

additional charge to the Principal Representative, where such right is challenged during the course of the Work. The Contractor shall pay all royalties and license fees required to be paid and shall defend all suits or claims for infringement of any patent rights and shall save the State of Colorado harmless from loss on account thereof, in accordance with Article 53.8, Indemnification; provided, however, the Contractor shall not be responsible for such loss or defense for any copyright violations contained in the Contract Documents prepared by the Architect/Engineer or the Principal Representative of which the Contractor is unaware, or for any patent violations based on specified processes that the Contractor is unaware are patented or that the Contractor should not have had reason to believe were patented.

29 ARTICLE 29 ASSIGNMENT

Except as otherwise provided hereafter the Contractor shall not assign the whole or any part of this Contract without the written consent of the Principal Representative. This provision shall not be construed to prohibit assignments of the right to payment to the extent permitted by C.R.S. § 4-9-406, et. seq., as amended, provided that written Notice of Assignment adequate to identify the rights assigned is received by the Principal Representative and the controller for the agency, department, or institution executing this Contract (as distinguished from the State Controller). Such assignment of the right to payment shall not be deemed valid until receipt by the Principal Representative and such controller and the Contractor assumes the risk that such written Notice of assignment is received by the Principal Representative and the controller for the agency, department, or institution involved. In case the Contractor assigns all or part of any moneys due or to become due under this Contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any moneys due or to become due to the Contractor shall be subject to all claims of all persons, firms, and corporations for services rendered or materials supplied for the performance of the Work called for in this Contract, whether said service or materials were supplied prior to or after the assignment. Nothing in this Article shall be deemed a waiver of any other defenses available to the State against the Contractor or the assignee.

30 ARTICLE 30 CORRECTION OF WORK BEFORE ACCEPTANCE

The Contractor shall promptly remove from the premises all Work or materials condemned or declared irreparably defective as failing to conform to the Contract Documents on receipt of written Notice from the Architect/Engineer or the Principal Representative, whether incorporated in the Work or not. If such materials shall have been incorporated in the Work, or if any unsatisfactory Work is discovered, the Contractor shall promptly replace and re-execute his or her Work in accordance with the requirements of the Contract Documents without expense to the Principal Representative, and shall also bear the expense of making good all Work of other contractors destroyed or damaged by the removal or replacement of such defective material or Work.

Should any defective Work or material be discovered during the process of construction, or should reasonable doubt arise as to whether certain material or Work is in accordance with the Contract Documents, the value of such defective or questionable material or Work shall not be included in any application for payment, or if previously included, shall be deducted by the Architect/Engineer from the next application submitted by the Contractor.

If the Contractor does not perform repair, correction and replacement of defective Work, in lieu of proceeding by issuance of a Notice of intent to remove condemned Work as outlined above, the Principal Representative may, not less than seven (7) days after giving the original written Notice of the need to repair, correct, or replace defective Work, deduct all costs and expenses of replacement or correction as instructed by the Architect/Engineer from the Contractor's next application for payment in addition to the value of the defective Work or material. The Principal Representative may also make an equitable deduction from the Contract sum by unilateral Change Order, in accordance with Article 33, Payments Withheld and Article 35, Changes In The Work.

If the Contractor does not remove such condemned or irreparably defective Work or material within a reasonable time, the Principal Representative may, after giving a second seven (7) day advance Notice to the Contractor and the Surety, remove them and may store the material at the Contractor's expense. The Principal Representative may accomplish the removal and replacement with its own forces or with another Contractor. If the Contractor does not pay the expense of such removal and pay all storage charges within ten (10) days thereafter, the Principal Representative may, upon ten (10) days' written Notice, sell such material at auction or at private sale and account for the net proceeds thereof, after deducting all costs and expenses which should have been borne by the Contractor. If the Contractor shall commence and diligently pursue such removal and replacement before the expiration of the seven-day period, or if the Contractor shall show good cause in conjunction with submittal of a revised CPM schedule showing when the Work will be performed and why such removal of condemned Work should be scheduled for a later date, the Principal Representative shall not proceed to remove or replace the condemned Work.

If the Contractor disagrees with the Notice to remove Work or materials condemned or declared irreparably defective, the Contractor may request facilitated negotiation of the issue and the Principal Representative's right to proceed with removal and to deduct costs and expenses of repair shall be suspended and tolled until such time as the parties meet and negotiate the issue

During construction, whenever the Architect/Engineer has advised the Contractor in writing, in the Specifications, by reference to Article 6, Architect/Engineer Decisions and Judgments, of these General Conditions or elsewhere in the Contract Documents of a need to observe materials in place prior to their being permanently covered up, it shall be the Contractor's responsibility to notify the Architect/Engineer at least forty-eight (48) hours in advance of such covering operation. If the Contractor fails to provide such notification, Contractor shall, at his or her expense, uncover such portions of the Work as required by the Architect/Engineer for observation, and reinstall such covering after observation. When a covering operation is continued from day to day, notification of the commencement of a single continuing covering operation shall suffice for the activity specified so long as it proceeds regularly and without interruption from day to day, in which event the Contractor shall coordinate with the Architect/Engineer regarding the continuing covering operation.

31 ARTICLE 31 APPLICATIONS FOR PAYMENTS

31.1 CONTRACTOR'S SUBMITTALS

On or before the first day of each month and no more than five days prior thereto, the Contractor may submit applications for payment for the Work performed during such month covering the portion of the Work completed as of the date indicated, and payments on account of this Contract

shall be due per C.R.S. § 24-30-202(24) (correct notice of amount due), within forty-five (45) days of receipt by the Principal Representative of application for payments that have been certified by the Architect/Engineer. The Contractor shall submit the application for payment to the Architect/Engineer on State forms SBP-7.2, Certificate for Contractor's Payment, or such other format as the State Buildings Program shall approve, in an itemized format in accordance with the schedule of values or a cost loaded CPM schedule when required, supported to the extent reasonably required by the Architect/Engineer or the Principal Representative by receipts or other vouchers, showing payments for materials and labor, prior payments and payments to be made to Subcontractors and such other evidence of the Contractor's right to payments as the Architect/Engineer or Principal Representative may direct.

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 agreed upon in writing, such payments shall be conditioned upon submission by the Contractor of bills of sale or such other procedure as will establish the Principal Representative's title to such material or otherwise adequately protect the Principal Representative's interests, and shall provide proof of insurance whenever requested by the Principal Representative or the Architect/Engineer, and shall be subject to the right to inspect the materials at the request of either the Architect/Engineer or the Principal Representative.

All applications for payment, except the final application, and the payments there under, shall be subject to correction in the next application rendered following the discovery of any error.

31.2 ARCHITECT/ENGINEER CERTIFICATION

In accordance with the Architect/Engineer's agreement with the Principal Representative, the Architect/Engineer after appropriate observation of the progress of the Work shall certify to the Principal Representative the amount that the Contractor is entitled to, and forward the application to the Principal Representative. If the Architect/Engineer certifies an amount different from the amount requested or otherwise alters the Contractor's application for payment, a copy shall be forwarded to the Contractor.

If the Architect/Engineer is unable to certify all or portions of the amount requested due to the absence or lack of required supporting evidence, the Architect/Engineer shall advise the Contractor of the deficiency. If the deficiency is not corrected at the end of ten (10) days, the Architect/Engineer may either certify the remaining amounts properly supported to which the Contractor is entitled, or return the application for payment to the Contractor for revision with a written explanation as to why it could not be certified.

31.3 RETAINAGE WITHHELD

Unless otherwise provided in the Supplementary General Conditions, an amount equivalent to five percent (5%) of the amount shown to be due the Contractor on each application for payment shall be withheld until the Work required by the Contract has been performed. The withheld percentage of the contract price of any such Work, improvement, or construction shall be administered according to C.R.S. § 24-91-103, as amended, and C.R.S. § 38-26-107, as amended, and Article 31.4, shall be retained until the Work or discrete portions of the Work, have been completed satisfactorily, finally or partially accepted, and advertised for final settlement as further provided in Article 41.

31.4 RELEASE OF RETAINAGE

The Contractor may, for satisfactory and substantial reasons shown to the Principal Representative's satisfaction, make a written request to the Principal Representative and the

Architect/Engineer for release of part or all of the withheld percentage applicable to the Work of a Subcontractor which has completed the subcontracted Work in a manner finally acceptable to the Architect/Engineer, the Contractor, and the Principal Representative. Any such request shall be supported by a written approval from the Surety furnishing the Contractor's bonds and any surety that has provided a bond for the Subcontractor. The release of any such withheld percentage shall be further supported by such other evidence as the Architect/Engineer or the Principal Representative may require, including but not limited to, evidence of prior payments made to the Subcontractor, copies of the Subcontractor's contract with the Contractor, any applicable warranties, as-built information, maintenance manuals and other customary close-out documentation. Neither the Principal Representative nor the Architect Engineer shall be obligated to review such documentation nor shall they be deemed to assume any obligations to third parties by any review undertaken.

The Contractor's obligation under these General Conditions to guarantee Work for one year from the date of the Notice of Substantial Completion or the date of any Notice of Partial Substantial Completion of the applicable portion or phase of the Project, shall be unaffected by such partial release; unless a Notice of Partial Substantial Completion is issued for the Work subject to the release of retainage.

Any rights of the Principal Representative which might be terminated by or from the date of any final acceptance of the Work, whether at common law or by the terms of this Contract, shall not be affected by such partial release of retainage prior to any final acceptance of the entire Project.

The Contractor remains fully responsible for the Subcontractor's Work and assumes any risk that might arise by virtue of the partial release to the Subcontractor of the withheld percentage, including the risk that the Subcontractor may not have fully paid for all materials, labor and equipment furnished to the Project.

If the Principal Representative considers the Contractor's request for such release satisfactory and supported by substantial reasons, the Architect/Engineer shall make a "final inspection" of the applicable portion of the Project to determine whether the Subcontractor's Work has been completed in accordance with the Contract Documents. A final punch list shall be made for the Subcontractor's Work and the procedures of Article 41, Completion, Final Inspection, Acceptance and Settlement, shall be followed for that portion of the Work, except that advertisement of the intent to make final payment to the Subcontractor shall be required only if the Principal Representative has reason to believe that a supplier or Subcontractor to the Subcontractor for which the request is made, may not have been fully paid for all labor and materials furnished to the Project.

32 ARTICLE 32 CERTIFICATES FOR PAYMENTS

State Form SBP-7.2, Certificate For Contractor's Payment, and its continuation detail sheets, when submitted, shall constitute the Certificate of Contractor's Application for Payment, and shall be a representation by the Contractor to the Principal Representative that the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and materials for which payment is requested have been incorporated into the Project except as noted in the application. If requested by the Principal Representative the Certificate of Contractor's Application for Payment shall be sworn under oath and notarized.

33 ARTICLE 33 PAYMENTS WITHHELD

The Architect/Engineer, the Principal Representative or State Buildings Program may withhold, or on account of subsequently discovered evidence nullify, the whole or any part of any application on account of, but not limited to any of the following:

- a) Defective Work not remedied;
- b) Claims filed or reasonable evidence indicating probable filing of claims;
- c) Failure of the Contractor to make payments to Subcontractors for material or labor;
- d) A reasonable doubt that the Contract can be completed for the balance of the contract price then unpaid;
- e) Damage or injury to another contractor or any other person, persons or property except to the extent of coverage by a policy of insurance;
- f) Failure to obtain necessary permits or licenses or to comply with applicable laws, ordinances, codes, rules or regulations or the directions of the Architect/Engineer;
- g) Failure to submit a monthly construction schedule;
- h) Failure of the Contractor to keep Work progressing in accordance with the time schedule;
- i) Failure to keep a superintendent on the Work;
- j) Failure to maintain as built drawings of the Work in progress;
- k) Unauthorized deviations by the Contractor from the Contract Documents; or
- l) On account of liquidated damages.

In addition, the Architect Engineer, Principal Representative or State Buildings Program may withhold or nullify the whole or any part of any application for any reason noted elsewhere in these General Conditions of the Contractor’s Design/Bid/Build Agreement. Nullification shall mean reduction of amounts shown as previously paid on the application. The amount withheld or nullified may be in such amount as the Architect/Engineer or the Principal Representative estimates to be required to allow the State to accomplish the Work, cure the failure and cover any damages or injuries, including an allowance for attorneys’ fees and costs where appropriate. When the grounds for such withholding or nullifying are removed, payment shall be made for the amounts thus withheld or nullified on such grounds.

34 ARTICLE 34 DEDUCTIONS FOR UNCORRECTED WORK

If the Architect/Engineer and the Principal Representative deem it inexpedient to correct Work damaged or not performed in accordance with the Contract Documents, the Principal Representative may, after consultation with the Architect/Engineer and ten (10) days’ Notice to the Contractor of intent to do so, make reasonable reductions from the amounts otherwise due the Contractor on the next application for payment. Notice shall specify the amount or terms of any contemplated reduction. The Contractor may during this period correct or perform the Work. If the Contractor does not correct or perform the Work, an equitable deduction from the Contract sum shall be made by Change Order, in accordance with Article 35, Changes in The Work, unilaterally if necessary. If either party elects’ facilitation of this issue after Notice is given, the ten-day (10) notice period shall be extended and tolled until facilitation has occurred.

35 ARTICLE 35 CHANGES IN THE WORK

The Principal Representative may designate, without invalidating the Agreement, and with the approval of State Buildings Program and the State Controller, may order extra Work or make changes with or without the consent of the Contractor as hereafter provided, by altering, adding to or deducting from the Work, the Contract sum being adjusted accordingly. All such changes in the Work shall be within the general scope of and be executed under the conditions of the Contract, except that any claim for extension of time made necessary due to the change or any claim of other delay or other impacts caused by or resulting from the change in the Work shall be presented by the Contractor and adjusted by Change Order to the extent known at the time such change is ordered and before proceeding with the extra or changed Work. Any claims for extension of time or of delay or other impacts, and any costs associated with extension of time, delay or other impacts, which are not presented before proceeding with the change in the Work, and which are not adjusted by Change Order to the extent known, shall be waived.

The Architect/Engineer shall have authority to make minor changes in the Work, not involving extra cost, and not inconsistent with the intent of the Contract Documents, but otherwise, except in an emergency endangering life or property, no extra Work or change in the Contract Documents shall be made unless by 1) a written Change Order, approved by the Principal Representative, State Buildings Program, and the State Controller prior to proceeding with the changed Work; or 2) by an Emergency Field Change Order approved by the Principal Representative and State Buildings Program as hereafter provided in Article 35.4 Emergency Field Ordered Changed Work; or 3) by an allocation in writing of any allowance already provided in the encumbered contract amount, the Contract sum being later adjusted to decrease the Contract sum by any unallocated or unexpended amounts remaining in such allowance. No change to the Contract sum shall be valid unless so ordered.

35.1 THE VALUE OF CHANGED WORK

The value of any extra Work or changes in the Work shall be determined by agreement in one or more of the following ways:

- a) By estimate and acceptance of a lump-sum amount;
- b) By unit prices specified in the Agreement, or subsequently agreed upon, that are extended by specific quantities;
- c) By actual cost plus a fixed fee in a lump sum amount for profit, overhead and all indirect and off-site home office costs, the latter amount agreed upon in writing prior to starting the extra or changed Work.

Where the Contractor and the Principal Representative cannot agree on the value of extra Work, the Principal Representative may order the Contractor to perform the changes in the Work and a Change Order may be unilaterally issued based on an estimate of the change in the Work prepared by the Architect/Engineer. The value of the change in the Work shall be the Principal Representative's determination of the amount of equitable adjustment attributable to the extra Work or change. The Principal Representative's determination shall be subject to appeal by the Contractor pursuant to the claims process in Article 36, Claims.

Except as otherwise provided in Article 35.2, Detailed Breakdown, the Cost Principles of the Colorado Procurement Code or the applicable procurement code for institutions of higher education, shall govern all Contract changes.

35.2 DETAILED BREAKDOWN

In all cases where the value of the extra or changed Work is not known based on unit prices in the Contractor's bid or the Agreement, a detailed change proposal shall be submitted by the Contractor on a Change Order Proposal (SC-6.312), or in such other format as the State Buildings Program approves, with which the Principal Representative may require an itemized list of materials, equipment and labor, indicating quantities, time and cost for completion of the changed Work.

Such detailed change proposals shall be stated in lump sum amounts and shall be supported by a separate breakdown, which shall include estimates of all or part of the following when requested by the Architect/Engineer or the Principal Representative:

- a) Materials, indicating quantities and unit prices including taxes and delivery costs if any (separated where appropriate into general, mechanical and electrical and/or other Subcontractors' Work; and the Principal Representative may require in its discretion any significant subcontract costs to be similarly and separately broken down).
- b) Labor costs, indicating hourly rates and time and labor burden to include Social Security and other payroll taxes such as unemployment, benefits and other customary burdens.
- c) Costs of project management time and superintendence time of personnel stationed at the site, and other field supervision time, but only where a time extension, other than a weather delay, is approved as part of the Change Order, and only where such project management time and superintendence time is directly attributable to and required by the change; provided however that additional cost of on-site superintendence shall be allowable whenever in the opinion of the Architect/Engineer the impact of multiple change requests to be concurrently performed will result in inadequate levels of supervision to assure a proper result unless additional superintendence is provided.
- d) Construction equipment (including small tools). Expenses for equipment and fuel shall be based on customary commercially reasonable rental rates and schedules. Equipment and hand tool costs shall not include the cost of items customarily owned by workers.
- e) Workers' compensation costs, if not included in labor burden.
- f) The cost of commercial general liability and property damage insurance premiums but only to the extent charged the Contractor as a result of the changed Work.
- g) Overhead and profit, as hereafter specified.
- h) Builder's risk insurance premium costs.
- i) Bond premium costs.
- j) Testing costs not otherwise excluded by these General Conditions.
- k) Subcontract costs.

Unless modified in the Supplementary General Conditions, overhead and profit shall not exceed the percentages set forth in the table below.

	OVERHEAD	PROFIT	COMMISSION
To the Contractor or to Subcontractors for the portion of Work performed with their own forces:	10%	5%	0%
To the Contractor or to Subcontractors for Work performed by others at a tier immediately below either of them:	5%	0%	5%

Overhead shall include: a) insurance premium for policies not purchased for the Project and itemized above, b) home office costs for office management, administrative and supervisory personnel and assistants, c) estimating and change order preparation costs, d) incidental job burdens, e) legal costs, f) data processing costs, g) interest costs on capital, h) general office expenses except those attributable to increased rental expenses for temporary facilities, and all other indirect costs, but shall not include the Social Security tax and other direct labor burdens. The term "Work" as used in the proceeding table shall include labor, materials and equipment and the "Commission" shall include all costs and profit for carrying the subcontracted Work at the tiers below except direct costs as listed in items 1 through 11 above if any.

On proposals for Work involving both additions and credits in the amount of the Contract sum, the overhead and profit will be allowed on the net increase only. On proposals resulting in a net deduct to the amount of the Contract sum, profit on the deducted amount shall be returned to the Principal Representative at fifty percent (50%) of the rate specified. The inadequacy of the profit specified shall not be a basis for refusal to submit a proposal.

Except in the case of Change Orders or Emergency Field Change Orders agreed to on the basis of a lump sum amount or unit prices as described in paragraphs 35.1a and 35.2a above, The Value of Changed Work, the Contractor shall keep and present a correct and fully auditable account of the several items of cost, together with vouchers, receipts, time cards and other proof of costs incurred, summarized on a Change Order form (SC-6.31) using such format for supporting documentation as the Principal Representative and State Buildings Program approve. This requirement applies equally to Work done by Subcontractors. Only auditable costs shall be reimbursable on Change Orders where the value is determined on the basis of actual cost plus a fixed fee pursuant to paragraph 35A3 above, or where unilaterally determined by the Principal Representative on the basis of an equitable adjustment in accordance with the Procurement Rules, as described above in Article 35.1, The Value of Changed Work.

Except for proposals for Work involving both additions and credits, changed Work shall be adjusted and considered separately for Work either added or omitted. The amount of adjustment for Work omitted shall be estimated at the time it is directed to be omitted, and when reasonable to do so, the agreed adjustment shall be reflected on the schedule of values used for the next Contractor's application for payment.

The Principal Representative reserves the right to contract with any person or firm other than the Contractor for any or all extra Work; however, unless specifically required in the Contract Documents, the Contractor shall have no responsibility without additional compensation to

supervise or coordinate the Work of persons or firms separately contracted by the Principal Representative.

35.3 HAZARDOUS MATERIALS

The Principal Representative represents that it has undertaken an examination of the site of the Work and has determined that there are no hazardous substances, as defined below, which the Contractor could reasonably encounter in its performance of the Work. In the event the Principal Representative so discovers hazardous substances, the Principal Representative shall render harmless such hazards before the Contractor commences the Work.

In the event the Contractor encounters any materials reasonably believed to be hazardous substances which have not been rendered harmless, the Contractor shall immediately stop Work in the area affected and report the condition to the Principal Representative, in writing. For purposes of this Agreement, "hazardous substances" shall include asbestos, lead, polychlorinated biphenyl (PCB) and any or all of those substances defined as "hazardous substance", "hazardous waste", or "dangerous or extremely hazardous wastes" as those terms are used in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA), and shall also include materials regulated by the Toxic Substances Control Act (TSCA), the Clean Air Act, the Air Quality Act, the Clean Water Act, and the Occupational Safety and Health Act. The Work in the affected area shall not therefore be resumed except by written agreement of the Principal Representative and the Contractor, if in fact materials that are hazardous substances have not been rendered harmless. The Work in the affected area shall be resumed only in the absence of the hazardous substances or when it has been rendered harmless or by written agreement of the Principal Representative and the Contractor.

The contractor shall not be required to perform Work without consent in any areas where it reasonably believes hazardous substances that have not been rendered harmless are present.

35.4 EMERGENCY FIELD CHANGE ORDERED WORK

The Principal Representative, without invalidating the Agreement, and with the approval of State Buildings Program and without the approval of the State Controller, may order extra Work or make changes in the case of an emergency that is a threat to life or property or where the likelihood of delays in processing a normal Change Order will result in substantial delays and or significant cost increases for the Project. Emergency Field Orders are not to be used solely to expedite normal Change Order processing absent a clear showing of a high potential for significant and substantial cost or delay. Such changes in the Work may be directed through issuance of an Emergency Field Change Order signed by the Contractor, the Principal Representative (or by a designee specifically appointed to do so in writing), and approved by the Director of State Buildings Program or his or her delegate. The change shall be directed using an Emergency Field Change Order form (SC-6.31E).

If the amount of the adjustment of the Contract price and time for completion can be determined at the time of issuance of the Emergency Field Change Order, those adjustments shall be reflected on the face of the Emergency Field Change Order. Otherwise, the Emergency Field Change Order shall reflect a not to exceed (NTE) amount for any schedule adjustment (increasing or decreasing the time for completion) and an NTE amount for any adjustment to Contract sum, which NTE amount shall represent the maximum amount of adjustment to which the Contractor will be entitled, including direct and indirect costs of changed Work, as well as any direct or indirect costs attributable to delays, inefficiencies or other impacts arising out of the change. Emergency Field

Change Orders directed in accordance with this provision need not bear the approval signatures of the State Controller.

On Emergency Field Change Orders where the price and schedule have not been finally determined, the Contractor shall submit final costs for adjustment as soon as practicable. No later than seven (7) days after issuance, except as otherwise permitted, and every seven days thereafter, the Contractor shall report all costs to the Principal Representative and the Architect/Engineer. The final adjustment of the Emergency Field Change Order amount and the adjustment to the Project time for completion shall be prepared on a normal Change Order from (SC-6.31) in accordance with the procedures described in Article 35.1, The Value of Changed Work, and B, Detailed Breakdown, above. Unless otherwise provided in writing signed by the Director of State Buildings Program to the Principal Representative and the Contractor, describing the extent and limits of any greater authority, individual Emergency Field Change Orders shall not be issued for more than \$25,000, nor shall the cumulative value of Emergency Field Change Orders exceed an amount of \$100,000.

35.5 APPROPRIATION LIMITATIONS - C.R.S. § 24-91-103.6, as amended

The amount of money appropriated, as shown on the Contractor's Design/Bid/Build Agreement (SC 6.21), is equal to or in excess of the Contract amount. No Change Order, Emergency Field Change Order, or other type of order or directive shall be issued by the Principal Representative, or any agent acting on his or her behalf, which directs additional compensable Work to be performed, which Work causes the aggregate amount payable under the Contract to exceed the amount appropriated for the original Contract, as shown on the Agreement (SC-6.21), unless one of the following occurs: (1) the Contractor is provided written assurance from the Principal Representative that sufficient additional lawful appropriations exist to cover the cost of the additional Work; or (2) the Work is covered by a contractor remedy provision under the Contract, such as a claim for extra cost. By way of example only, no assurance is required for any order, directive or instruction by the Architect/Engineer or the Principal Representative to perform Work which is determined to be within the performance required by the Contract Documents; the Contractor's remedy shall be as described elsewhere in these General Conditions.

Written assurance shall be in the form of an Amendment to the Contract reciting the source and amount of such appropriation available for the Project. No remedy granting provision of this Contract shall obligate the Principal Representative to seek appropriations to cover costs in excess of the amounts recited as available to pay for the Work to be performed.

36 ARTICLE 36 CLAIMS

It is the intent of these General Conditions to provide procedures for speedy and timely resolution of disagreements and disputes at the lowest level possible. In the spirit of on the job resolution of job site issues, the parties are encouraged to use the partnering processes of Article 2.4, Partnering, Communications and Cooperation, before turning to the more formal claims processes described in this Article 36, Claims. The use of non-binding dispute resolution, whether through the formal processes described in Article 39, Non-Binding Dispute Resolution – Facilitated Negotiations, or through less formal alternative processes developed as part of a partnering plan, are also encouraged. Where such process cannot resolve the issues in dispute, the claims process that follows is intended to cause the issues to be presented, decided and where necessary, documented in close proximity to the events from which the issues arise. To that end, and in summary of the remedy granting process that follows commencing with the next paragraph of

this Article 36, Claims, the Contractor shall 1) first, seek a decision by the Architect/Engineer, and 2) shall second, informally present the claim to Principal Representative as described hereafter, and 3) failing resolution in the field, give Notice of intent to exercise statutory rights of review of a formal contract controversy, and 4) seek resolution outside the Contract as provided by the Colorado Procurement Code or the applicable procurement code for institutions of higher education.

If the Contractor claims that any instructions, by detailed drawings, or otherwise, or any other act or omission of the Architect/Engineer or Principal Representative affecting the scope of the Contractor's Work, involve extra cost, extra time or changes in the scope of the Work under this Contract, the Contractor shall have the right to assert a claim for such costs or time, provided that before either proceeding to execute such Work (except in an emergency endangering life or property), or filing a Notice of claim, the Contractor shall have obtained or requested a written decision of the Architect/Engineer following the procedures as provided in Article 6.1 and 6.2, Architect/Engineer Decisions and Judgments, respectively; provided, however, that in the case of a directed change in the Work pursuant to Article 35, no written judgment or decision of the Architect/Engineer is required. If the Contractor is delayed by the lack of a response to a request for a decision by the Architect/Engineer, the Contractor shall give Notice in accordance with Article 38, Delays and Extensions of Time.

Unless it is the Architect/Engineer's judgment and determination that the Work is not included in the performance required by the Contract Documents, the Contractor shall proceed with the Work as originally directed. Where the Contractor's claim involves a dispute concerning the value of Work unilaterally directed pursuant to Article 35.A.2 the Contractor shall also proceed with the Work as originally directed while his or her claim is being considered.

The Contractor shall give the Principal Representative and the Architect/Engineer Notice of any claim promptly after the receipt of the Architect/Engineer's decision, but in no case later than three (3) business days after receipt of the Architect/Engineer's decision (or no later than ten (10) days from the date of the Contractor's request for a decision when the Architect/Engineer fails to decide as provided in Article 6). The Notice of claim shall state the grounds for the claim and the amount of the claim to the extent known in accordance with the procedures of Article 35, Changes in the Work. The period in which Notice must be given may be extended by the Principal Representative if requested in writing by the Contractor with good cause shown, but any such extension to be effective shall be in writing.

The Principal Representative shall respond in writing, with a copy to the Architect/Engineer, within a reasonable time, and except where a request for facilitation of negotiation has been made as hereafter provided, in no case later than seven (7) business days (or at such other time as the Contractor and Principal Representative agree) after receipt of the Contractor's Notice of claim regarding such instructions or alleged act or omission. If no response to the Contractor's claim is received within seven (7) business days of Contractor's Notice (or at such other time as the Contractor and Principal Representative agree) and the instructions have not been retracted, it shall be deemed that the Principal Representative has denied the claim.

The Principal Representative may grant or deny the claim in whole or in part, and a Change Order shall be issued if the claim is granted. To the extent any portion of claim is granted where costs are not clearly shown, the Principal Representative may direct that the value of that portion of the Work be determined by any method allowed in Article 35.1, The Value of Changed Work. Except in the case of a deemed denial, the Principal Representative shall provide a written explanation regarding any portion of the Contractor's claim that is denied.

If the Contractor disagrees with the Principal Representative's judgment and determination on the claim and seeks an equitable adjustment of the Contract sum or time for performance, he or she shall give Notice of intent to exercise his or her statutory right to seek a decision on the contract controversy within ten (10) days of receipt of the Principal Representative's decision denying the claim. A "contract controversy," as such term is used in the Colorado Procurement Code or the applicable procurement code for institutions of higher education, shall not arise until the initial claim process described above in this Article 36 has been properly exhausted by the Contractor. The Contractor's failure to proceed with Work directed by the Architect/Engineer or to exhaust the claim process provided above in this Article 36, shall constitute an abandonment of the claim by the Contractor and a waiver of the right to contest the decision in any forum.

At the time of filing the Notice of intent to exercise his or her statutory right to seek a decision on the contract controversy, the Contractor may request that the Principal Representative defer a decision on the contract controversy until a later date or until the end of the Project. If the Principal Representative agrees, he or she shall so advise the Contractor in writing. If no such request is made, or if the Principal Representative does not agree to such a request, the Principal Representative shall render a written decision within twenty (20) business days and advise the Contractor of the reasons for any denial. Unless the claim has been decided by the Principal Representative (as opposed to delegates of the Principal Representative), the person who renders the decision on this statutory contract controversy shall not be the same person who decided the claim. To the extent any portion of the contract controversy is granted where costs are not clearly shown, the Principal Representative may direct that the value of that portion of the Work be determined by any method allowed in Article 35.1, The Value of Changed Work. In the event of a denial, the Principal Representative shall give Notice to the Contractor of his or her right to administrative and judicial reviews as provided in the Colorado Procurement Code or the applicable procurement code for institutions of higher education. If no decision regarding the contract controversy is issued within twenty (20) business days of the Contractor's giving Notice (or such other date as the Contractor and Principal Representative have agreed), and the instructions have not been retracted or the alleged act or omission have not been corrected, it shall be deemed that the Principal Representative has ruled by denial on the contract controversy. Except in the case of a deemed denial, the Principal Representative shall provide an explanation regarding any portion of the contract controversy that involves denial of the Contractor's claim.

Either the Contractor or the Principal Representative may request facilitation of negotiations concerning the claim or the contract controversy, and if requested, the parties shall consult and negotiate before the Principal Representative decides the issue. Any request for facilitation by the Contractor shall be made at the time of the giving of Notice of the claim or Notice of the contract controversy. Facilitation shall extend the time for the Principal Representative to respond by commencing the applicable period at the completion of the facilitated negotiation, which shall be the last day of the parties' meeting, unless otherwise agreed in writing.

Disagreement with the decision of the Architect Engineer, or the decision of the Principal Representative to deny any claim or denying the contract controversy, shall not be grounds for the Contractor to refuse to perform the Work directed or to suspend or terminate performance. During the period that any claim or contract controversy decision is pending under this Article 36, Claims, the Contractor shall proceed diligently with the Work directed.

In all cases where the Contractor proceeds with the Work and seeks equitable adjustment by filing a claim and or statutory appeal, the Contractor shall keep a correct account of the extra cost, in accordance with Article 35.2, Detailed Breakdown supported by receipts. The Principal

Representative shall be entitled to reject any claim or contract controversy whenever the foregoing procedures are not followed and such accounts and receipts are not presented.

The payments to the Contractor in respect of such extra costs shall be limited to reimbursement for the current additional expenditure by the Contractor made necessary by the change in the Work, plus a reasonable amount for overhead and profit, determined in accordance with Article 35.2, Detailed Breakdown, determined solely with reference to the additional Work, if any, required by the change.

37 ARTICLE 37 DIFFERING SITE CONDITIONS

37.1 NOTICE IN WRITING

The Contractor shall promptly, and where possible before conditions are disturbed, give the Architect/Engineer and the Principal Representative Notice in writing of:

- a) Subsurface or latent physical conditions at the site differing materially from those indicated in or reasonably assumed from the information provided in the Contract Documents; and,
- b) 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 Architect/Engineer shall promptly investigate the conditions, and if it is found that such conditions do materially so differ and cause an increase or decrease in the Contractor's costs of performance of any part of the Work required by the Contract Documents, whether or not such Work is changed as a result of such conditions, an equitable adjustment shall be made and the Contract sum shall be modified in accordance with Article 35, Changes in the Work.

If the time required for completion of the Work affected by such materially differing conditions will extend the Work on the critical path as indicated on the CPM schedule, the time for completion shall also be equitably adjusted.

37.2 LIMITATIONS

No claim of the Contractor under this clause shall be allowed unless the Contractor has given the Notice required in Article 37.1, Notice in Writing, above. The time prescribed for presentation and adjustment in Articles 36, Claims and 38, Delays and Extensions of Time, shall be reasonably extended by the State to the extent required by the nature of the differing conditions; provided, however, that even when so extended no claim by the Contractor for an equitable adjustment hereunder shall be allowed if not quantified and presented prior to the date the Contractor requests a final inspection pursuant to Article 41.1, Notice of Completion.

38 ARTICLE 38 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 State of Colorado or the Architect/Engineer, or of any employee or agent of either, or by any separately employed Contractor or by strikes, lockouts, fire, unusual delay in transportation, unavoidable casualties or any other causes beyond the Contractor's control, including weather delays as defined below, the time of Completion of the Work shall be extended for a period equal

to such portion of the period of delays directly affecting the completion of the Work as the Contractor shall be able to show he or she could not have avoided by the exercise of due diligence.

The Contractor shall provide Notice in writing to the Architect/Engineer, the Principal Representative and State Buildings Program within three (3) business days from the beginning of such delay and shall file a written claim for an extension of time within seven (7) business days after the period of such delay has ceased, otherwise, any claim for an extension of time is waived.

Provided that the Contractor has submitted reasonable schedules for approval when required by Article 12, Requests for Information and Schedules, if no schedule is agreed to fixing the dates on which the responses to requests for information or detail drawings will be needed, or Shop Drawings, Product Data or Samples are to be reviewed as required or allowed by Article 12.2, Schedules, no extension of time will be allowed for the Architect/ Engineer's failure to furnish such detail drawings as needed, or for the failure to initially review Shop Drawings, Product Data or Samples, except in respect of that part of any delay in furnishing detail drawings or instructions extending beyond a reasonable period after written demand for such detailed drawings or instructions is received by the Architect/Engineer. In any event, any claim for an extension of time for such cause will be recognized only to the extent of delay directly caused by failure to furnish detail drawings or instructions or to review Shop Drawings, Product Data or Samples pursuant to schedule, after such demand.

All claims for extension of time due to a delay claimed to arise or result from ordered changes in the scope of the Work, or due to instructions claimed to increase the scope of the Work, shall be presented to the Architect/Engineer, the Principal Representative and State Buildings Program as part of a claim for extra cost, if any, in accordance with Article 36, Claims, and in accordance with the Change Order procedures required by Article 35, Changes in The Work.

Except as otherwise provided in this paragraph, no extension of time shall be granted when the Contractor has failed to utilize a CPM schedule or otherwise identify the Project's critical path as specified in Article 12, Requests for Information and Schedules, or has elected not to do so when allowed by the Supplementary General Conditions or the Specifications to use less sophisticated scheduling tools, or has failed to maintain such a schedule. Delay directly affecting the completion of the Work shall result in an extension of time only to the extent that completion of the Work was affected by impacts to the critical path shown on Contractor's CPM schedule. Where the circumstances make it indisputable in the opinion of the Architect/Engineer that the delay affected the completion of the Work so directly that the additional notice of the schedule impact by reference to a CPM schedule was unnecessary, a reasonable extension of time may be granted.

Extension of the time for completion of the Work will be granted for delays due to weather conditions only when the Contractor demonstrates that such conditions were more severe and extended than those reflected by the ten-year average for the month, as evidenced by the Climatological Data, U. S. Department of Commerce, for the Project area.

Extensions of the time for completion of the Work due to weather will be granted on the basis of one and three tenths (1.3) calendar days for every day that the Contractor would have Worked but was unable to Work, with each separate extension figured to the nearest whole calendar day.

For weather delays and delays caused by events, acts or omissions not within the control of the Principal Representative or any person acting on the Principal Representative's behalf, the Contractor shall be entitled to an extension of time only and shall not be entitled to recovery of additional cost due to or resulting from such delays. This Article does not, however, preclude the recovery of damages for delay by either party under other provisions in the Contract Documents.

39 ARTICLE 39 NON-BINDING DISPUTE RESOLUTION – FACILITATED NEGOTIATIONS

The Contractor and Principal Representative agree to designate one or more mutually acceptable persons willing and able to facilitate negotiations and communications for the resolution of conflicts, disagreements or disputes between them at the specific request of either party with regard to any Project decision of either of them or any decision of the Architect/Engineer. The designation of such person(s) shall not carry any obligation to use their services except that each party agrees that if the other party requests the intervention of such person(s) with respect to any such conflict, dispute or disagreement, the non-requesting party shall participate in good faith attempts to negotiate a resolution of the issue in dispute. If the parties cannot agree on a mutually acceptable person to serve in this capacity one shall be so appointed; provided, however, that either party may request the director of State Buildings Program to appoint such a person, who, if appointed, shall be accepted for this purpose by both the Contractor and the Principal Representative.

The cost, if any, of the facilitative services of the person(s) so designated shall be shared if the parties so agree in any partnering plan; or in the absence of agreement the cost shall be borne by the party requesting the facilitation of negotiation.

Any dispute, claim, question or disagreement arising from or relating to the Contract or an alleged breach of the Contract may be subject to a request by either party for facilitated negotiation subject to the limitations hereafter listed, and the parties shall participate by consultation and negotiation with each other, as guided by the facilitator and with recognition of their mutual interests, in an attempt to reach an equitable solution satisfactory to both parties.

The obligation to participate in facilitated negotiations shall be as described above and elsewhere in these General Conditions, as by way of example in Article 36, Claims, or Article 34, Deductions for Uncorrected Work and to the extent not more particularly described or limited elsewhere, each party's obligations shall be as follows:

- a) A party shall not initiate communication with the facilitator regarding the issues in dispute; except that any request for facilitation shall be made in writing with copies sent, faxed or delivered to the other party;
- b) A party shall prepare a brief written description of its position if so requested by the facilitator (who may elect to first discuss the parties' positions with each party separately in the interest of time and expense);
- c) A party shall respond to any reasonable request for copies of documents requested by the facilitator, but such requests, if voluminous, may consist of an offer to allow the facilitator access to the parties' documents;
- d) A party shall review any meeting agenda proposed by a facilitator and endeavor to be informed on the subjects to be discussed;
- e) A party shall meet with the other party and the facilitator at a mutually acceptable place and time, or, if none can be agreed to, at the time and place designated by the facilitator for a period not to exceed four hours unless the parties agree to a longer period;
- f) A party shall endeavor to assure that any facilitation meeting shall be attended by any other persons in their employ that the facilitator requests be present, if reasonably available, including the Architect/Engineer;

- g) Each party shall participate in such facilitated face-to-face negotiations of the issues in dispute through persons fully authorized to resolve the issue in dispute;
- h) Each party shall be obligated to participate in negotiations requested by the other party and to perform the specific obligations described in paragraphs (1) through (10) this Article 39, Facilitated Negotiation, no more than three times during the course of the Project;
- i) Neither party shall be under any obligation to resolve any issue by facilitated negotiation, but each agrees to participate in good faith and the Principal Representative shall direct the Architect/Engineer to appropriately document any resolution or agreement reached and to execute any Amendment or Change Order to the Contract necessary to implement their agreement; and,
- j) Any discussions and documents prepared exclusively for use in the negotiations shall be deemed to be matters pertaining to settlement negotiations and shall not be subsequently available in further proceedings except to the extent of any documented agreement.

In accordance with State Fiscal Rules and Article 52.6, Choice of Law; No Arbitration, nothing in this Article 39 shall be deemed to call for arbitration or otherwise obligate the State to participate in any form of binding alternative dispute resolution.

A partnering plan developed as described in Article 2.4, Partnering, Communications and Cooperation, may modify or expand the requirements of this Article but may not reduce the obligation to participate in facilitated negotiations when applicable. In the case of small projects estimated to be valued under \$500,000, the requirements of this Article may be deleted from this Contract, by modification in Article 7 (Contractor's Agreement SC-6.21), Optional Provisions and Elections. When so modified, the references to the parties' right to elect facilitated negotiation elsewhere in these General Conditions shall be deleted.

40 ARTICLE 40 RIGHT OF OCCUPANCY

The Principal Representative shall have the right to take possession of and to use any completed or partially completed portions of the Work, even if the time for completing the entire Work or portions of the Work has not expired and even if the Work has not been finally accepted, and the Contractor shall fully cooperate with the Principal Representative to allow such possession and use. Such possession and use shall not constitute an acceptance of such portions of the Work.

Prior to any occupancy of the Project, an inspection shall be made by the Principal Representative, State Buildings Program and the Contractor. Such inspection shall be made for the purpose of ensuring that the building is secure, protected by operation safety systems as designed, operable exits, power, lighting and HVAC systems, and otherwise ready for the occupancy intended and the Notice of Substantial Completion has been issued for the occupancy intended. The inspection shall also document existing finish conditions to allow assessment of any damage by occupants. The Contractor shall assist the Principal Representative in completing and executing State Form SBP-01, Approval of Occupancy/Use, prior to the Principal Representative's possession and use. Any and all areas so occupied will be subject to a final inspection when the Contractor complies with Article 41, Completion, Final Inspection, Acceptance and Settlement.

41 ARTICLE 41 COMPLETION, FINAL INSPECTION, ACCEPTANCE AND SETTLEMENT

41.1 NOTICE OF COMPLETION

When the Work, or a discrete physical portion of the Work (as hereafter described) which the Principal Representative has agreed to accept separately, is substantially complete and ready for final inspection, the Contractor shall file a written Notice with the Architect/Engineer that the Work, or such discrete physical portion, in the opinion of the Contractor, is substantially complete under the terms of the Contract. The Contractor shall prepare and submit with such Notice a comprehensive list of items to be completed or corrected prior to final payment, which shall be subject to review and additions as the Architect/Engineer or the Principal Representative shall determine after inspection. If the Architect/Engineer or the Principal Representative believe that any of the items on the list of items submitted, or any other item of Work to be corrected or completed, or the cumulative number of items of Work to be corrected or completed, will prevent a determination that the Work is substantially complete, those items shall be completed by the Contractor and the Notice shall then be resubmitted.

41.2 FINAL INSPECTION

Within ten (10) days after the Contractor files written Notice that the Work is substantially complete, the Architect/Engineer, the Principal Representative, and the Contractor shall make a "final inspection" of the Project to determine whether the Work is substantially complete and has been completed in accordance with the Contract Documents. State Buildings Program shall be notified of the inspection not less than three (3) business days in advance of the inspection. The Contractor shall provide the Principal Representative and the Architect/Engineer an updated punch list in sufficient detail to fully outline the following:

- a) Work to be completed, if any; and
- b) Work not in compliance with the Drawings or Specifications, if any.

A final punch list shall be made by the Architect/Engineer in sufficient detail to fully outline to the Contractor:

- a) Work to be completed, if any;
- b) Work not in compliance with the Drawings or Specifications, if any; and
- c) Unsatisfactory Work for any reason, if any.

The required number of copies of the final punch list will be countersigned by the authorized representative of the Principal Representative and will then be transmitted by the Architect/Engineer to the Contractor, the Principal Representative, and State Buildings Program. The Architect/Engineer's final punch list shall control over the Contractor's preliminary punch list.

41.3 NOTICE OF SUBSTANTIAL COMPLETION

Notice of Substantial Completion shall establish the date of substantial completion of the Project. The Contractor acknowledges and agrees that because the departments, agencies and institutions of the State of Colorado are generally involved with the business of the public at large, greater care must be taken in establishing the date of substantial completion than might otherwise be the case to ensure that a project or building or discrete physical portion of the Work is fully usable and safe for public use, and that such care necessarily raises the standard by which the concept of substantial completion is applied for a public building.

The Notice of Substantial Completion shall not be issued until the following have been fully established:

- a) All required building code inspections have been called for and the appropriate code officials have affixed their signatures to the Building Inspection Record indicating successful completion of all required code inspections;
- b) All required corrections noted on the Building Inspection Record shall have been completed unless the Architect/Engineer, the Principal Representative and State Buildings Program, in their complete and absolute discretion, all concur that the condition requiring the remaining correction is not in any way life threatening, does not otherwise endanger persons or property, and does not result in any undue inconvenience or hardship to the Principal Representative or the public;
- c) The building, structure or Project can be fully and comfortably used by the Principal Representative and the public without undue interference by the Contractor's employees and Workers during the completion of the final punch list taking into consideration the nature of the public uses intended and taking into consideration any stage or level of completion of HVAC system commissioning or other system testing required by the Specifications to be completed prior to issuance of the Notice of Substantial Completion;
- d) The Project has been fully cleaned as required by these General Conditions, and as required by any stricter requirements of the Specifications, and the overall state of completion is appropriate for presentation to the public; and
- e) The Contractor has provided a schedule for the completion of each and every item identified on the punch list which specifies the Subcontractor or trade responsible for the Work, and the dates the completion or correction of the item will be commenced and finished; such schedule will show completion of all remaining final punch list items within the period indicated in the Contract for final punch list completion prior to Final Acceptance, with the exception of only those items which are beyond the control of the Contractor despite due diligence. The schedule shall provide for a reasonable punch list inspection process. Unless liquidated damages have been specified in Article 7.6 of the Contractor's Design/Bid/Build Agreement SC-6.21), the cost to the Principal Representative, if any, for re-inspections due to failure to adhere to the Contractor's proposed punch-list completion schedule shall be the responsibility of the Contractor and may be deducted by the Principal Representative from final amounts due to the Contractor.

Substantial completion of the entire Project shall not be conclusively established by a decision by the Principal Representative to take possession and use of a portion, or all of the Project, where portions of the Project cannot meet all the criteria noted above. Notice of Substantial Completion for the entire Project shall, however, only be withheld for substantial reasons when the Principal Representative has taken possession and uses all of the Project in accordance with the terms of Article 40, Right of Occupancy. Failure to furnish the required completion schedule shall constitute a substantial reason for withholding the issuance of any Notice of Substantial Completion.

The Contractor shall have the right to request a final inspection of any discrete physical portion of the Project when in the opinion of the Principal Representative, The Architect/Engineer and State Buildings Program a final punch list can be reasonably prepared, without confusion as to which portions of the Project are referred to in any subsequent Notice of Partial Final Settlement which might be issued after such portion is finally accepted. Discrete physical portions of the Project may be, but shall not necessarily be limited to, such portions of the Project as separate

buildings where a Project consists of multiple buildings. Similarly, an addition to an existing building where the Project also calls for renovation or remodeling of the existing building may constitute a discrete physical portion of the Project. In such circumstances, when in the opinion of the Principal Representative, the Architect/Engineer and State Buildings Program, the requirements for issuance of a Notice of Substantial Completion can be satisfied with respect to the discrete portion of the Project, a partial Notice of Substantial Completion may be issued for such discrete physical portion of the Project.

41.4 NOTICE OF ACCEPTANCE

The Notice of Acceptance shall establish the completion date of the Project. It shall not be authorized until the Contractor shall have performed all of the Work to allow completion and approval of the Pre-Acceptance Checklist (SBP-05).

Where partial Notices of Substantial Completion have been issued, partial Notices of Final Acceptance may be similarly issued when appropriate for that portion of the Work. Partial Notice of Final Acceptance may also be issued to exclude the Work described in Change Orders executed during late stages of the Project where a later completion date for the Change Ordered Work is expressly provided for in the Contract as amended by the Change Order, provided the Work can be adequately described to allow partial advertisement of any Notice of Partial Final Settlement to be issued without confusion as to the Work included for which final payment will be made.

41.5 SETTLEMENT

Final payment and settlement shall be made on the date fixed and published for such payment except as hereafter provided. The Principal Representative shall not authorize final payment until all items on the Pre-Acceptance check list (SBP-05) have been completed, the Notice of Acceptance issued, and the Notice of Contractors Settlement published. If the Work shall be substantially completed, but Final Acceptance and completion thereof shall be prevented through delay in correction of minor defects, or unavailability of materials or other causes beyond the control of the Contractor, the Principal Representative in his or her discretion may release all amounts due to the Contractor except such amounts as may be in excess of three times the cost of completing the unfinished Work or the cost of correcting the defective Work, as estimated by the Architect/Engineer and approved by State Buildings Program. Before the Principal Representative may issue the Notice of Contractor's Settlement and advertise the Project for final payment, the Contractor shall have corrected all items on the punch list except those items for which delayed performance is expressly permitted, subject to withholding for the cost thereof, and shall have delivered to the Principal Representative:

- a) All guarantees and warranties;
- b) All statements to support local sales tax refunds, if any;
- c) Required operating maintenance instructions as per the Principal Representative; and,
- d) One (1) set of hard copy as-built Contract Documents, and one (1) electronic copy showing all job changes.
- e) Demonstrated to the operating personnel of the Principal Representative the proper operation and maintenance of all equipment.
- f) A written disclosure of the Five Most Costly Goods incorporated into the project, including iron, steel, or related manufactured goods and the total cost and country of origin of those five goods and whether the project was subject to any existing domestic content preferences.

Upon completion of the foregoing the Project shall be advertised in accordance with the Notice of Contractor's Settlement by two publications of Notice, the last publication appearing at least ten (10) days prior to the time of final settlement. Publication and final settlement should not be postponed or delayed solely by virtue of unresolved claims against the Project or the Contractor from Subcontractors, suppliers or materialmen based on good faith disputes; the resolution of the question of payment in such cases being directed by statute.

Except as hereafter provided, on the date of final settlement thus advertised, provided the Contractor has submitted a written Notice to the Architect/Engineer that no claims have been filed, and further provided the Principal Representative shall have received no claims, final payments and settlement shall be made in full. If any unpaid claim for labor, materials, rental machinery, tools, supplies or equipment is filed before payment in full of all sums due the Contractor, the Principal Representative and the State Controller shall withhold from the Contractor on the date established for final settlement, sufficient funds to insure the payment of such claim, until the same shall have been paid or withdrawn, such payment or withdrawal to be evidenced by filing a receipt in full or an order for withdrawal signed by the claimant or his or her duly authorized agent or assignee. The amount so withheld may be in the amount of 125% of the claims or such other amount as the Principal Representative reasonably deems necessary to cover expected legal expenses. Such withheld amounts shall be in addition to any amount withheld based on the cost to compete unfinished Work or the cost to repair defective Work. However, as provided by statute, such funds shall 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 at law shall be commenced within that time to enforce such unpaid claim and a Notice of such action at law shall have been filed with the Principal Representative and the State Controller. At the expiration of the ninety (90) day period, the Principal Representative shall authorize the State Controller to release to the Contractor all other money not the subject of such action at law or withheld based on the cost to compete unfinished Work or the cost to repair defective Work.

Notices of Partial Final Settlement may be similarly advertised, provided all conditions precedent have been satisfied as though that portion of the Work affected stood alone, a Notice of Partial Acceptance has been issued, and the consent of surety to the partial final settlement has been obtained in writing. Thereafter, partial final payments may be made to the Contractor subject to the same conditions regarding unpaid claims.

42 ARTICLE 42 GENERAL WARRANTY AND CORRECTION OF WORK AFTER ACCEPTANCE

The Contractor warrants that the materials used and the equipment furnished shall be new and of good quality unless specified to the contrary. The Contractor further warrants that the Work shall, in all respects, be free from material defects not permitted by the Specifications and shall be in accordance with the requirements of the Contract Documents. Neither the final certificate for payment nor any provision in the Contract Documents shall relieve the Contractor of responsibility for defects or faulty materials or Workmanship. The Contractor shall be responsible to the Principal Representative for such warranties for the longest period permitted by any applicable statute of limitations.

In addition to these general warranties, and without limitation of these general warranties, for a period of one year after the date of any Notice of Substantial Completion, or any Notice of Partial Substantial Completion if applicable, the Contractor shall remedy defects, and faulty

Workmanship or materials, and Work not in accordance with the Contract Documents which was not accepted at the time of the Notice of Final Acceptance, all in accordance with the provisions of Article 44, One-Year Guarantee And Special Guarantees And Warranties.

43 ARTICLE 43 LIENS

Colorado statutes do not provide for any right of lien against public buildings. In lieu thereof, C.R.S. § 38-26-107, provides adequate relief for any claimant having furnished labor, materials, rental machinery, tools, equipment, or services toward construction of the particular public Work in that final payment may not be made to a Contractor until all such creditors have been put on Notice by publication in the public press of such pending payment and given opportunity for a period of up to ninety (90) days to stop payment to the Contractor in the amount of such claims.

44 ARTICLE 44 ONE-YEAR GUARANTEE AND SPECIAL GUARANTEES AND WARRANTIES

44.1 ONE-YEAR GUARANTEE OF THE WORK

The Contractor shall guarantee to remedy defects and repair or replace the Work for a period of one year from the date of the Notice of Substantial Completion or from the dates of any partial Notices of Substantial Completion issued for discrete physical portions of the Work. The Contractor shall remedy any defects due to faulty materials or Workmanship and shall pay for, repair and replace any damage to other Work resulting there from, which shall appear within a period of one year from the date of such Notice(s) of Substantial Completion. The Contractor shall also remedy any deviation from the requirements of the Contract Documents which shall later be discovered within a period of one year from the date of the Notice of Substantial Completion; provided, however, that the Contractor shall not be required to remedy deviations from the requirements of the Contract Documents where such deviations were obvious, apparent and accepted by the Architect/Engineer or the Principal Representative at the time of the Notice of Final Acceptance. The Principal Representative shall give Notice of observed defects or other Work requiring correction with reasonable promptness. Such Notice shall be in writing to the Architect/Engineer and the Contractor.

The one year guarantee of the Contractor's Work may run separately for discrete physical portions of the Work for which partial Notices of Substantial Completion have been issued, however, it shall run from the last Notice of Substantial Completion with respect to all or any systems common to the Work to which more than one Notice of Substantial Completion may apply.

This one-year guarantee shall not be construed to limit the Contractor's general warranty described in Article 42, General Warranty and Correction of Work After Acceptance, that all materials and equipment are new and of good quality, unless specified to the contrary, and that the Work shall in all respects be free from material defects not permitted by the Specifications and in accordance with the requirements of the Contract Documents.

44.2 SPECIAL GUARANTEES AND WARRANTIES

In case of Work performed for which product, manufacturers or other special warranties are required by the Specifications, the Contractor shall secure the required warranties and deliver copies thereof to the Principal Representative through the Architect/Engineer upon completion of the Work.

These product, manufacturers or other special warranties, as such, do not in any way lessen the Contractor's responsibilities under the Contract. Whenever guarantees or warranties are required by the Specifications for a longer period than one year, such longer period shall govern.

45 ARTICLE 45 GUARANTEE INSPECTIONS AFTER COMPLETION

The Architect/Engineer, the Principal Representative and the Contractor together shall make at least two (2) complete inspections of the Work after the Work has been determined to be substantially complete and accepted. One such inspection, the "Six-Month Guarantee Inspection," shall be made approximately six (6) months after date of the Notice of Substantial Completion, unless in the case of smaller projects valued under \$500,000 this inspection is declined in Article 7.5 (Contractor's Agreement SC-6.21), Modification of Article 45, in which case the inspection to occur at six months shall not be required. Another such inspection, the "Eleven-Month Guaranty Inspection" shall be made approximately eleven (11) months after the date of the Notice of Substantial Completion. The Contractor shall schedule and so notify all parties concerned, and the Principal Representative shall so notify State Buildings Program, of these inspections. If more than one Notice of Substantial Completion has been issued at the reasonable discretion of the Principal Representative separate eleven month inspections may be required where the one year guarantees do not run reasonably concurrent.

Written punch lists and reports of these inspections shall be made by the Architect/Engineer and forwarded to the Contractor, the Principal Representative, State Buildings Program, and all other participants within ten (10) days after the completion of the inspections. The punch list shall itemize all guarantee items, prior punch list items still to be corrected or completed and any other requirements of the Contract Documents to be completed which were not waived by final acceptance because they were not obvious or could not reasonably have been previously observed. 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 promptly complete all such remedial Work in a manner satisfactory to the Architect/Engineer, the Principal Representative and State Buildings Program.

If the Contractor fails to promptly correct all deficiencies and defects shown by this report, the Principal Representative may do so, after giving the Contractor ten (10) days written Notice of intention to do so.

The State of Colorado, acting by and through the Principal Representative, shall be entitled to collect from the Contractor all costs and expenses incurred by it in correcting such deficiencies and defects, as well as all damages resulting from such deficiencies and defects.

46 ARTICLE 46 TIME OF COMPLETION AND LIQUIDATED DAMAGES

It is hereby understood and mutually agreed, by and between the parties hereto, that the date of beginning, rate of progress, and the time for completion of the Work to be done hereunder are ESSENTIAL CONDITIONS of this Agreement, and it is understood and agreed that the Work embraced in this Contract shall be commenced at the time specified in the Notice to Proceed (SC-6.26).

It is further agreed that time is of the essence of each and every portion of this Contract, and of any portion of the Work described on the Drawings or Specifications, wherein a definite and certain length of time is fixed for the performance of any act whatsoever. The parties further agree that where under the Contract additional time is allowed for the completion of the Work or any identified portion of the Work, the new time limit or limits fixed by such extension of the time for completion shall be of the essence of this Agreement.

The Contractor acknowledges that subject to any limitations in the Advertisement for Bids, issued for the Project, the Contractor's bid is consistent with and considers the number of days to substantially complete the Project and the number of days to finally complete the Project to which the parties may have stipulated in the Agreement, which stipulation was based on the Contractor's bid. The Contractor agrees that Work shall be prosecuted regularly, diligently and uninterruptedly at such rate of progress as will ensure the Project will be substantially complete, and fully and finally complete, as recognized by the issuance of all required Notices of Substantial Completion and Notices of Final Acceptance, within any times stipulated and specified in the Agreement, as the same may be amended by Change Order or other written modification, and that the Principal Representative will be damaged if the times of completion are delayed.

It is expressly understood and agreed, by and between the parties hereto, that the times for the Substantial Completion of the Work or for the final acceptance of the Work as may be stipulated in the Agreement, and as applied here and in Article 7.6 of the Contractor's Design/Bid/Build Agreement SC-6.21), Modifications of Article 46, are reasonable times for these stages of completion of the Work, taking into such consideration all factors, including the average climatic range and usual industrial conditions prevailing in the locality of the building operations.

If the Contractor shall neglect, fail or refuse to complete the Work within the times specified in the Agreement, such failure shall constitute a breach of the terms of the Contract and the State of Colorado, acting by and through the Principal Representative, shall be entitled to liquidated damages for such neglect, failure or refusal, as specified in Article 7.6 of the Contractor's Design/Bid/Build Agreement SC-6.21, Modification of Article 46.

The Contractor and the Contractor's Surety shall be jointly liable for and shall pay the Principal Representative, or the Principal Representative may withhold, the sums hereinafter stipulated as liquidated damages for each calendar day of delay until the entire Project is 1) substantially completed, and the Notice (or all Notices) of Substantial Completion are issued, 2) finally complete and accepted and the Notice (or all Notices) of Acceptance are issued, or 3) both. Delay in substantial completion shall be measured from the Date of the Notice to Proceed and delay in final completion and acceptance shall be measured from the Date of the Notice of Substantial Completion.

In the first instance, specified in Article 7.6.1 of the Contractor's Design/Bid/Build Agreement SC-6.21, Modification of Article 46, liquidated damages, if any, shall be the amount specified therein, for each calendar day of delay beginning after the stipulated number of days for Substantial Completion from the date of the Notice to Proceed, until the date of the Notice of Substantial Completion. Unless otherwise specified in any Supplementary General Conditions, in the event of any partial Notice of Substantial Completion, liquidated damages shall accrue until all required Notices of Substantial Completion are issued.

In the second instance, specified in Article 7.6.2 of the Contractor's Design/Bid/Build Agreement SC-6.21, Modification of Article 46, liquidated damages, if any, shall be the amount specified in Article 7.6.2 of the Contractor's Design/Bid/Build Agreement SC-6.21, Modification of Article 46, for each calendar day in excess of the number of calendar days specified in the Contractor's bid

for the Project and stipulated in the Agreement to finally complete the Project (as defined by the issuance of the Notice of Acceptance) after the final Notice of Substantial Completion has been issued.

In the third instance, when so specified in both Articles 7.6.1 and 7.6.2 of the Contractor's Agreement SC-6.21, both types of liquidated damages shall be separately assessed where those delays have occurred.

The parties expressly agree that said amounts are a reasonable estimate of the presumed actual damages that would result from any of the breaches listed, and that any liquidated damages that are assessed have been agreed to in light of the difficulty of ascertaining the actual damages that would be caused by any of these breaches at the time this Contract was formed; the liquidated damages in the first instance representing an estimate of damages due to the inability to use the Project; the liquidated damages in the second instance representing an estimate of damages due to the additional administrative, technical, supervisory and professional expenses related to and arising from the extended closeout period including delivery of any or all guarantees and warranties, the submittals of sales and use tax payment forms, the calling for the final inspection and the completion of the final punch list.

The parties also agree and understand that the liquidated damages to be assessed in each instance are separate and distinct, although potentially cumulative, damages for the separate and distinct breaches of delayed substantial completion or final acceptance. Such liquidated damages shall not be avoided by virtue of the fact of concurrent delay caused by the Principal Representative, or anyone acting on behalf of the Principal Representative, but in such event the period of delay for which liquidated damages are assessed shall be equitably adjusted in accordance with Article 38, Delays and Extensions of Time.

47 ARTICLE 47 DAMAGES

If either party to this Contract shall suffer damage under this Contract in any manner because of any wrongful act or neglect of the other party or of anyone employed by either of them, then the party suffering damage shall be reimbursed by the other party for such damage. Except to the extent of damages liquidated for the Contractor's failure to achieve timely completion as set forth in Article 46, Time of Completion and Liquidated Damages, the Principal Representative shall be responsible for, and at his or her option may insure against, loss of use of any existing property not included in the Work, due to fire or otherwise, however caused. Notwithstanding the foregoing, or any other provision of this Contract, to the contrary, no term or condition of this contract shall be construed or interpreted as a waiver, express or implied, of any of the immunities, rights, benefits, protection, or other provisions of the Colorado Governmental Immunity Act, Section 24-10-101, *et seq.*, CRS, as now or hereafter amended. The parties understand and agree that liability for claims for injuries to persons arising out of negligence of the State of Colorado, its departments, institutions, agencies, boards, officials and employees is controlled and limited by the provisions of Section 24-101-101, *et seq.*, CRS, as now or hereafter amended and the risk management statutes, Section 24-30-1501, *et seq.*, CRS, as now or hereafter amended.

Notice of intent to file a claim under this clause shall be made in writing to the party liable within a reasonable time of the first observance of such damage and not later than the time of final payment, except that in the case of claims by the Principal Representative involving warranties against faulty Work or materials Notice shall be required only to the extent stipulated elsewhere

in these General Conditions. Claims made to the Principal Representative involving extra cost or extra time arising by virtue of instructions to the Contractor to which Article 36, Claims, applies shall be made in accordance with Article 36. Other claims arising under the Contract involving extra cost or extra time which are made to the Principal Representative under this clause shall also be made in accordance with the procedures of Article 36, whether or not arising by virtue of instructions to the Contractor; provided however that it shall not be necessary to first obtain or request a written judgment of the Architect/Engineer.

Provided written Notice of intent to file a claim is provided as required in the preceding paragraph, nothing in this Article shall limit or restrict the rights of either party to bring an action at law or to seek other relief to which either party may be entitled, including consequential damages, if any, and shall not be construed to limit the time during which any action might be brought. Nothing in these General Conditions shall be deemed to limit the period of time during which any action may be brought as a matter of contract, tort, warranty or otherwise, it being the intent of the parties to allow any and all actions at law or in equity for such periods as the law permits. All such rights shall, however be subject to the obligation to assert claims and to appeal denials pursuant to Article 36, Claims, where applicable.

**48 ARTICLE 48 STATE'S RIGHT TO DO THE WORK; TEMPORARY SUSPENSION OF WORK;
DELAY DAMAGES**

48.1 STATE'S RIGHT TO DO THE WORK

If after receipt of Notice to do so, the Contractor should neglect to prosecute the Work properly or fail to perform any provision of the Contract, the Principal Representative, after a second seven (7) days' advance written Notice to the Contractor and the Surety may, without prejudice to any other remedy the Principal Representative may have, take control of all or a portion of the Work, as the Principal Representative deems necessary and make good such deficiencies deducting the cost thereof from the payment then or thereafter due the Contractor, as provided in Article 30, Correction Of Work Before Acceptance and Article 33, Payments Withheld, provided, however, that the Architect/Engineer shall approve the amount charged to the Contractor by approval of the Change Order.

48.2 TEMPORARY SUSPENSION OF WORK

The State, acting for itself or by and through the Architect/Engineer, shall have the authority to suspend the Work, either wholly or in part, for such period or periods as may be deemed necessary due to:

- a) Unsuitable weather;
- b) Faulty Workmanship;
- c) Improper superintendence or project management;
- d) Contractor's failure to carry out orders or to perform any provision of the Contract Documents;
- e) Loss of, or restrictions to, appropriations;
- f) Conditions, which may be considered unfavorable for the prosecution of the Work.

If it should become necessary to stop Work for an indefinite period, the Contractor shall store materials in such manner that they will not become an obstruction or become damaged in any way; and he or she shall take every precaution to prevent damage to or deterioration of the Work, provide suitable drainage and erect temporary structures where necessary.

Notice of suspension of Work shall be provided to the Contractor in writing stating the reasons therefore. The Contractor shall again proceed with the Work when so notified in writing.

The Contractor understands and agrees that the State of Colorado cannot predict with certainty future revenues and could ultimately lack the revenue to fund the appropriations applicable to this Contract. The Contractor further acknowledges and agrees that in such event that State may, upon Notice to the Contractor, suspend the Work in anticipation of a termination of the Contract for the convenience of the State, pursuant to Article 50, Termination for Convenience of State. If the Contract is not so terminated the Contract sum and the Contract time shall be equitably adjusted at the time the Principal Representative directs the Work to be recommenced and gives Notice that the revenue to fund the appropriation is available.

48.3 DELAY DAMAGES

The Principal Representative and the State of Colorado shall be liable to the Contractor for the payment of any claim for extra costs, extra compensation or damages occasioned by hindrances or delays encountered in the Work only when and to the limited extent that such hindrance or delay is caused by an act or omission within the control of the Principal Representative, the Architect/Engineer or other persons or entities acting on behalf of the Principal Representative. Further, the Principal Representative and the State of Colorado shall be liable to the Contractor for the payment of such a claim only if the Contractor has provided required Notice of the delay or impact, or has presented its claim for an extension of time or claim of other delay or other impact due to changes ordered in the Work before proceeding with the changed Work. Except as otherwise provided, claims for extension of time shall be Noticed and filed in accordance with Article 38, Delays and Extensions of Time, within three (3) business days of the beginning of the delay with any claim filed within seven (7) days after the delay has ceased, or such claim is waived. Claims for extension of time or for other delay or other impact resulting from changes ordered in the Work shall be presented and adjusted as provided in Article 35, Changes in the Work.

49 ARTICLE 49 STATE'S RIGHTS TO TERMINATE CONTRACT

49.1 GENERAL

If the Contractor should be adjudged bankrupt, or if he or she should make a general assignment for the benefit of his or her creditors, or if a receiver should be appointed to take over his affairs, or if he or she should fail to prosecute his or her Work with due diligence and carry the Work forward in accordance with the construction schedule and the time limits set forth in the Contract Documents, or if he or she should fail to subsequently perform one or more of the provisions of the Contract Documents to be performed by him, the Principal Representative may serve written Notice on the Contractor and the Surety on performance and payment bonds, stating his or her intention to exercise one of the remedies hereinafter set forth and the grounds upon which the Principal Representative bases his or her right to exercise such remedy.

In such event, unless the matter complained of is satisfactorily cleared within ten (10) days after delivery of such Notice, the Principal Representative may, without prejudice to any other right or

remedy, exercise one of such remedies at once, having first obtained the concurrence of the Architect/Engineer in writing that sufficient cause exists to justify such action.

49.2 CONDITIONS AND PROCEDURES

49.2.1 Termination

The Principal Representative may terminate the services of the Contractor, which termination shall take effect immediately upon service of Notice thereof on the Contractor and his or her Surety, whereupon the Surety shall have the right to take over and perform the Contract. If the Surety does not provide Notice to the Principal Representative of its intent to commence performance of the Contract within ten (10) days after delivery of the Notice of termination, the Principal Representative may take over the Work, take possession of and use all materials, tools, equipment and appliances on the premises and prosecute the Work to completion by such means as he or she shall deem best. In the event of such termination of his or her service, the Contractor shall not be entitled to any further payment under the Contract until the Work is completed and accepted. If the Principal Representative takes over the Work and if the unpaid balance of the contract price exceeds the cost of completing the Work, including compensation for any damages or expenses incurred by the Principal Representative through the default of the Contractor, such excess shall be paid to the Contractor. If, however, the cost, expenses and damages as certified by the Architect/Engineer exceed such unpaid balance of the contract price, the Contractor and his or her Surety shall pay the difference to the Principal Representative.

49.2.2 Use of Surety

The Principal Representative may require the Surety on the Contractor's bond to take control of the Work and see to it that all the deficiencies of the Contractor are made good, with due diligence within ten (10) days of delivery of Notice to the Surety to do so. As between the Principal Representative and the Surety, the cost of making good such deficiencies shall all be borne by the Surety. If the Surety takes over the Work, either by election upon termination of the services of the Contractor pursuant to Section B(1) of this Article 49, State's Right To Terminate Contract, or upon instructions from the Principal Representative to do so, the provisions of the Contract Documents shall govern the Work to be done by the Surety, the Surety being substituted for the Contractor as to such provisions, including provisions as to payment for the Work, the times of completion and provisions of this Article as to the right of the Principal Representative to do the Work or to take control of all or a portion of the Work.

49.2.3 Correcting Deficiencies

The Principal Representative may take control of all or a portion of the Work and make good the deficiencies of the Contractor, or the Surety if the Surety has been substituted for the Contractor, with or without terminating the Contract, employing such additional help as the Principal Representative deems advisable in accordance with the provisions of Article 48.1, State's Right to Do the Work; Temporary Suspension of Work; Delay Damages. In such event, the Principal Representative shall be entitled to collect from the Contractor and his or her Surety, or to deduct from any payment then or thereafter due the Contractor, the costs incurred in having such deficiencies made good and any damages or expenses incurred through the default of Contractor, provided the Architect/Engineer approves the amount thus charged to the Contractor.

If the Contract is not terminated, a Change Order to the Contract shall be executed, unilaterally if necessary, in accordance with the procedures of Article 35, Changes in The Work.

49.3 ADDITIONAL CONDITIONS

If any termination by the Principal Representative for cause is later determined to have been improper, the termination shall be automatically converted to and deemed to be a termination by the Principal Representative for convenience and the Contractor shall be limited in recovery to the compensation provided for in Article 50, Termination for Convenience of State. Termination by the Contractor shall not be subject to such conversion.

50 ARTICLE 50 TERMINATION FOR CONVENIENCE OF STATE

50.1 NOTICE OF TERMINATION

The performance of Work under this Contract may be terminated, in whole or from time to time in part, by the State whenever for any reason the Principal Representative shall determine that such termination is in the best interest of State. Termination of Work hereunder shall be effected by delivery to the Contractor of a Notice of such termination specifying the extent to which the performance of Work under the Contract is terminated and the date upon which such termination becomes effective.

50.2 PROCEDURES

After receipt of the Notice of termination, the Contractor shall, to the extent appropriate to the termination, cancel outstanding commitments hereunder covering the procurement of materials, supplies, equipment and miscellaneous items. In addition, the Contractor shall exercise all reasonable diligence to accomplish the cancellation or diversion of all applicable outstanding commitments covering personal performance of any Work terminated by the Notice. With respect to such canceled commitments, the Contractor agrees to:

- a) Settle all outstanding liabilities and all claims arising out of such cancellation of commitments, with approval or ratification of the Principal Representative, to the extent he or she may require, which approval or ratification shall be final for all purposes of this clause; and,
- b) Assign to the State, in the manner, at the time, and to the extent directed by the Principal Representative, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case the State shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts.

The Contractor shall submit his or her termination claim to the Principal Representative promptly after receipt of a Notice of termination, but in no event later than three (3) months from the effective date thereof, unless one or more extensions in writing are granted by the Principal Representative upon written request of the Contractor within such three-month period or authorized extension thereof. Upon failure of the Contractor to submit his or her termination claim within the time allowed, the Principal Representative may determine, on the basis of information available to him, the amount, if any, due to the Contractor by reason of the termination and shall thereupon pay to the Contractor the amount so determined.

Costs claimed, agreed to, or determined pursuant to the preceding and following paragraph shall be in accordance with the provisions of the Colorado Procurement Code or the applicable procurement code for institutions of higher education.

Subject to the preceding provisions, the Contractor and the Principal Representative may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the termination under this clause, which amount or amounts may include any reasonable cancellation charges thereby incurred by the Contractor and any reasonable loss upon outstanding commitments for personal services which he or she is unable to cancel; provided, however, that in connection with any outstanding commitments for personal services which the Contractor is unable to cancel, the Contractor shall have exercised reasonable diligence to divert such commitments to other activities and operations. Any such agreement shall be embodied in an Amendment to this Contract and the Contractor shall be paid the agreed amount.

The State may from time to time, under such terms and conditions as it may prescribe, make partial payments against costs incurred by the Contractor in connection with the termination portion of this Contract, whenever, in the opinion of the Principal Representative, the aggregate of such payments is within the amount to which the Contractor will be entitled hereunder.

The Contractor agrees to transfer title and deliver to the State, in the manner, at the time, and to the extent, if any, directed by the Principal Representative, such information and items which, if the Contract had been completed, would have been required to be furnished to the State, including:

- a) Completed or partially completed plans, Drawings and information; and,
- b) Materials or equipment produced or in process or acquired in connection with the performance of the Work terminated by the Notice.

Other than the above, any termination inventory resulting from the termination of the Contract may, with written approval of the Principal Representative, be sold or acquired by the Contractor under the conditions prescribed by and at a price or prices approved by the Principal Representative. The proceeds of any such disposition shall be applied in reduction of any payments to be made by the State to the Contractor under this Contract or shall otherwise be credited to the price or cost of Work covered by this Contract or paid in such other manners as the Principal Representative may direct. Pending final disposition of property arising from the termination, the Contractor agrees to take such action as may be necessary, or as the Principal Representative may direct, for the protection and preservation of the property related to this Contract which is in the possession of the Contractor and in which the State has or may acquire an interest.

Any disputes as to questions of fact, which may arise hereunder, shall be subject to the Remedies provisions of the Colorado Procurement Code or the applicable procurement code for institutions of higher education.

51 ARTICLE 51 CONTRACTOR'S RIGHT TO STOP WORK AND/OR TERMINATE CONTRACT

If the Work shall be stopped under an order of any court or other public authority for a period of three (3) months through no act or fault of the Contractor or of any one employed by him, then the Contractor may on seven (7) days' written Notice to the Principal Representative and the Architect/Engineer stop Work or terminate this Contract and recover from the Principal Representative payment for all Work executed, any losses sustained on any plant or material, and a reasonable profit only for the Work completed. If the Architect/Engineer shall fail to issue or otherwise act in writing upon any certificate for payment within ten (10) days after it is presented

and received by the Architect/Engineer, as provided in Article 31, Applications For Payments, or if the Principal Representative shall fail to pay the Contractor any sum certified that is not disputed in whole or in part by the Principal Representative in writing to the Contractor and the Architect/Engineer within thirty (30) days after the Architect/Engineer's certification, then the Contractor may on ten (10) days' written Notice to the Principal Representative and the Architect/Engineer stop Work and/or give written Notice of intention to terminate this Contract.

If the Principal Representative shall thereafter fail to pay the Contractor any amount certified by the Architect/Engineer and not disputed in writing by the Principal Representative within ten (10) days after receipt of such Notice, then the Contractor may terminate this Contract and recover from the Principal Representative payment for all Work executed, any losses sustained upon any plant or materials, and a reasonable profit only for the Work completed. The Principal Representative's right to dispute an amount certified by the Architect/Engineer shall not relieve the Principal Representative of the obligation to pay amounts not in dispute as certified by the Architect/Engineer.

52 ARTICLE 52 SPECIAL PROVISIONS

52.1 CONTROLLER'S APPROVAL, C.R.S. § 24-30-202(1)

This contract shall not be valid until it has been approved by the Colorado State Controller or designee.

52.2 FUND AVAILABILITY, C.R.S. § 24-30-202(5.5)

Financial obligations of the State payable after the current fiscal year are contingent upon funds for that purpose being appropriated, budgeted, and otherwise made available.

52.3 GOVERNMENTAL IMMUNITY

Liability for claims for injuries to persons or property arising from the negligence of the State, its departments, boards, commissions committees, bureaus, offices, employees and officials shall be controlled and limited by the provisions of the Colorado Governmental Immunity Act, §24-10-101, et seq., C.R.S.; the Federal Tort Claims Act, 28 U.S.C. Pt. VI, Ch. 171 and 28 U.S.C. 1346(b), and the State's risk management statutes, §§24-30-1501, et seq. C.R.S. No term or condition of this Contract shall be construed or interpreted as a waiver, express or implied, of any of the immunities, rights, benefits, protections, or other provisions, contained in these statutes.

52.4 INDEPENDENT CONTRACTOR

Contractor shall perform its duties hereunder as an independent Contractor and not as an employee. Neither Contractor nor any agent or employee of Contractor shall be deemed to be an agent or employee of the State. Contractor shall not have authorization, express or implied, to bind the State to any agreement, liability or understanding, except as expressly set forth herein. **Contractor and its employees and agents are not entitled to unemployment insurance or workers compensation benefits through the State and the State shall not pay for or otherwise provide such coverage for Contractor or any of its agents or employees. Contractor shall pay when due all applicable employment taxes and income taxes and local head taxes incurred pursuant to this Contract. Contractor shall (i) provide and keep in force workers' compensation and unemployment compensation insurance in the amounts required by law, (ii) provide proof thereof when requested by the State, and (iii) be solely responsible for its acts and those of its employees and agents.**

52.5 COMPLIANCE WITH LAW

Contractor shall comply with all applicable federal and State laws, rules, and regulations in effect or hereafter established, including, without limitation, laws applicable to discrimination and unfair employment practices.

52.6 CHOICE OF LAW, JURISDICTION, AND VENUE

Colorado law, and rules and regulations issued pursuant thereto, shall be applied in the interpretation, execution, and enforcement of this Contract. Any provision included or incorporated herein by reference which conflicts with said laws, rules, and regulations shall be null and void. All suits or actions related to this Contract shall be filed and proceedings held in the State of Colorado and exclusive venue shall be in the City and County of Denver.

52.7 PROHIBITED TERMS

Any term included in this Contract that requires the State to indemnify or hold Contractor harmless; requires the State to agree to binding arbitration; limits Contractor's liability for damages resulting from death, bodily injury, or damage to tangible property; or that conflicts with this provision in any way shall be void ab initio. Nothing in this Contract shall be construed as a waiver of any provision of §24-106-109, C.R.S.

52.8 SOFTWARE PIRACY PROHIBITION. SOFTWARE PIRACY PROHIBITION

State or other public funds payable under this Contract shall not be used for the acquisition, operation, or maintenance of computer software in violation of federal copyright laws or applicable licensing restrictions. Contractor hereby certifies and warrants that, during the term of this Contract and any extensions, Contractor has and shall maintain in place appropriate systems and controls to prevent such improper use of public funds. If the State determines that Contractor is in violation of this provision, the State may exercise any remedy available at law or in equity or under this Contract, including, without limitation, immediate termination of this Contract and any remedy consistent with federal copyright laws or applicable licensing restrictions.

52.9 EMPLOYEE FINANCIAL INTEREST/CONFLICT OF INTEREST

C.R.S. § 24-18-201 and C.R.S. § 24-50-507

The signatories aver that to their knowledge, no employee of the State has any personal or beneficial interest whatsoever in the service or property described in this contract. Contractor has no interest and shall not acquire any interest, direct or indirect, that would conflict in any manner or degree with the performance of Contractor services and Contractor shall not employ any person having such known interests.

52.10 VENDOR OFFSET AND ERRONEOUS PAYMENTS

C.R.S. § 24-30-202(1) & C.R.S. § 24-30-202.4

Subject to §24-30-202.4(3.5), C.R.S., the State Controller may withhold payment under the State's vendor offset intercept system for debts owed to State agencies for: (i) unpaid child support debts or child support arrearages; (ii) unpaid balances of tax, accrued interest, or other charges specified in §§39-21-101, et seq., C.R.S.; (iii) unpaid loans due to the Student Loan Division of the Department of Higher Education; (iv) amounts required to be paid to the Unemployment Compensation Fund; and (v) other unpaid debts owing to the State as a result of final agency determination or judicial action. The State may also recover, at the State's discretion, payments made to Contractor in error for any reason, including, but not limited to, overpayments or improper payments, and unexpended or excess funds received by Contractor by deduction from subsequent payments under this Contract, deduction from any payment due under any other

contracts, grants or agreements between the State and Contractor, or by any other appropriate method for collecting debts owed to the State.

53 ARTICLE 53 MISCELLANEOUS PROVISIONS

53.1 PROFESSIONAL ASSOCIATION PERMITTED

The Contractor may, with the prior written consent of the Principal Representative, join with him in the performance of this Agreement any other duly licensed Architect or Architects or registered Engineers with whom he may, in good faith, and enter into an association.

53.2 DISSOLUTION OF PROFESSIONAL ASSOCIATION

In the event there is dissolution of the association, other than by death of a member, the State of Colorado, acting by and through the Principal Representative, shall designate which former member shall continue with the work and may make all payments thereafter falling due in connection with the work directly to the person or persons so designated and without being required to look to the application of such payments as among the former members.

53.3 WAGE RATES, in accordance with C.R.S. § 24-30-1404 (1)

As amended, the Contractor has executed a schedule, which is attached hereto and made a part hereof by reference as **Exhibit B**, Wage Rates Schedule, and by doing so is certifying that wage rates and other factual unit costs supporting the compensation paid by the State for these professional services are accurate, complete and current.

The original contract price and any additions thereto shall be adjusted to exclude any significant sums by which the Principal Representative determines the contract price had been increased due to inaccurate, incomplete, or non-current wage rates and other factual unit costs. All such contract adjustments shall be made within one year following the end of this contract.

53.4 PUBLIC ART LAW

In recognition of the Public Art Law, C.R.S. § 24-48.5-312, as amended, if the State determines that this project is eligible for the acquisition of artworks in accordance with this law, the Contractor agrees to participate in the art selection process as an art jury member and to cooperate with and to advise the State in working with the commissioned artist(s) for this Capital Construction Project.

53.5 ASSIGNMENT

Contractor's rights and obligations under this Contract are personal and may not be transferred or assigned without the prior, written consent of the State. Any attempt at assignment or transfer without such consent shall be void. Any assignment or transfer of Contractor's rights and obligations approved by the State shall be subject to the provisions of this Contract.

53.6 SUBCONTRACTS

Contractor shall not enter into any subcontract in connection with its obligations under this Contract without the prior, written approval of the State. Contractor shall submit to the State a copy of each such subcontract upon request by the State. All subcontracts entered into by Contractor in connection with this Contract shall comply with all applicable federal and state laws and regulations, shall provide that they are governed by the laws of the State of Colorado, and shall be subject to all provisions of this Contract.

53.7 BINDING EFFECT

Except as otherwise provided in §17.A, all provisions of this Contract, including the benefits and burdens, shall extend to and be binding upon the Parties' respective successors and assigns.

53.8 AUTHORITY

Each Party represents and warrants to the other that the execution and delivery of this Contract and the performance of such Party's obligations have been duly authorized.

53.9 CAPTIONS AND REFERENCES

The captions and headings in this Contract are for convenience of reference only, and shall not be used to interpret, define, or limit its provisions. All references in this Contract to sections (whether spelled out or using the § symbol), subsections, exhibits or other attachments, are references to sections, subsections, exhibits or other attachments contained herein or incorporated as a part hereof, unless otherwise noted.

53.10 COUNTERPARTS

This Contract may be executed in multiple, identical, original counterparts, each of which shall be deemed to be an original, but all of which, taken together, shall constitute one and the same agreement.

53.11 ENTIRE UNDERSTANDING

This Contract represents the complete integration of all understandings between the Parties related to the Work, and all prior representations and understandings related to the Work, oral or written, are merged into this Contract. Prior or contemporaneous additions, deletions, or other changes to this Contract shall not have any force or effect whatsoever, unless embodied herein.

53.12 DIGITAL SIGNATURES

If any signatory signs this Contract using a digital signature in accordance with the Colorado State Controller Contract, Grant and Purchase Order Policies regarding the use of digital signatures issued under the State Fiscal Rules, then any agreement or consent to use digital signatures within the electronic system through which that signatory signed shall be incorporated into this Contract by reference.

53.13 MODIFICATION

Except as otherwise provided in this Contract, any modification to this Contract shall only be effective if agreed to in a formal amendment to this Contract, properly executed and approved in accordance with applicable Colorado State law and State Fiscal Rules. Modifications permitted under this Contract, other than contract amendments, shall conform to the policies issued by the Colorado State Controller.

53.14 STATUTES, REGULATIONS, FISCAL RULES AND OTHER AUTHORITY

Any reference in this Contract to a statute, regulation, State Fiscal Rule, fiscal policy or other authority shall be interpreted to refer to such authority then current, as may have been changed or amended since the Effective Date of this Contract.

53.15 EXTERNAL TERMS AND CONDITIONS

Notwithstanding anything to the contrary herein, the State shall not be subject to any provision included in any terms, conditions, or agreements appearing on Contractor's or a Subcontractor's website or any provision incorporated into any click-through or online agreements related to the Work unless that provision is specifically referenced in this Contract.

53.16 SEVERABILITY

The invalidity or unenforceability of any provision of this Contract shall not affect the validity or enforceability of any other provision of this Contract, which shall remain in full force and effect, provided that the Parties can continue to perform their obligations under this Contract in accordance with the intent of this Contract.

53.17 SURVIVAL AND CERTAIN CONTRACT TERMS

Any provision of this Contract that imposes an obligation on a Party after termination or expiration of this Contract shall survive the termination or expiration of this Contract and shall be enforceable by the other Party.

53.18 TAXES

The State is exempt from federal excise taxes under I.R.C. Chapter 32 (26 U.S.C., Subtitle D, Ch. 32) (Federal Excise Tax Exemption Certificate of Registry No. 84-730123K) and from State and local government sales and use taxes under §§39-26-704(1), et seq., C.R.S. (Colorado Sales Tax Exemption Identification Number 98-02565). The State shall not be liable for the payment of any excise, sales, or use taxes, regardless of whether any political subdivision of the state imposes such taxes on Contractor. Contractor shall be solely responsible for any exemptions from the collection of excise, sales or use taxes that Contractor may wish to have in place in connection with this Contract.

53.19 THIRD PARTY BENEFICIARIES

Except for the Parties' respective successors and assigns described in § 17.A, this Contract does not and is not intended to confer any rights or remedies upon any person or entity other than the Parties. Enforcement of this Contract and all rights and obligations hereunder are reserved solely to the Parties. Any services or benefits which third parties receive as a result of this Contract are incidental to this Contract, and do not create any rights for such third parties.

53.20 WAIVER

A Party's failure or delay in exercising any right, power, or privilege under this Contract, whether explicit or by lack of enforcement, shall not operate as a waiver, nor shall any single or partial exercise of any right, power, or privilege preclude any other or further exercise of such right, power, or privilege.

53.21 CORA DISCLOSURE

To the extent not prohibited by federal law, this Contract and the performance measures and standards required under §24-106-107, C.R.S., if any, are subject to public release through the CORA.

53.22 STANDARD AND MANNER OF PERFORMANCE

Contractor shall perform its obligations under this Contract in accordance with the highest standards of care, skill and diligence in Contractor's industry, trade, or profession.

53.23 LICENSES, PERMITS, AND OTHER AUTHORIZATIONS

Contractor shall secure, prior to the Effective Date, and maintain at all times during the term of this Contract, at its sole expense, all licenses, certifications, permits, and other authorizations required to perform its obligations under this Contract, and shall ensure that all employees, agents and Subcontractors secure and maintain at all times during the term of their employment, agency or subcontract, all license, certifications, permits and other authorizations required to perform their obligations in relation to this Contract.

53.24 INDEMNIFICATION

53.24.1 General Indemnification

Contractor shall indemnify, save, and hold harmless the State, its employees, agents and assignees (the "Indemnified Parties"), against any and all costs, expenses, claims, damages, liabilities, court awards and other amounts (including attorneys' fees and related costs) incurred by any of the Indemnified Parties in relation to any act or omission by Contractor, or its employees, agents, Subcontractors, or assignees in connection with this Contract.

53.24.2 Confidential Information Indemnification

Disclosure or use of State Confidential Information by Contractor in violation of §8 may be cause for legal action by third parties against Contractor, the State, or their respective agents. Contractor shall indemnify, save, and hold harmless the Indemnified Parties, against any and all claims, damages, liabilities, losses, costs, expenses (including attorneys' fees and costs) incurred by the State in relation to any act or omission by Contractor, or its employees, agents, assigns, or Subcontractors in violation of §8.

53.24.3 Intellectual Property Indemnification

Contractor shall indemnify, save, and hold harmless the Indemnified Parties, against any and all costs, expenses, claims, damages, liabilities, and other amounts (including attorneys' fees and costs) incurred by the Indemnified Parties in relation to any claim that any Deliverable, Good or Service, software, or Work Product provided by Contractor under this Contract (collectively, "IP Deliverables"), or the use thereof, infringes a patent, copyright, trademark, trade secret, or any other intellectual property right. Contractor's obligations hereunder shall not extend to the combination of any IP Deliverables provided by Contractor with any other product, system, or method, unless the other product, system, or method is (a) provided by Contractor or Contractor's subsidiaries or affiliates; (b) specified by Contractor to work with the IP Deliverables; (c) reasonably required in order to use the IP Deliverables in its intended manner and the infringement could not have been avoided by substituting another reasonably available product, system, or method capable of performing the same function; or (d) is reasonably expected to be used in combination with the IP Deliverables.

53.24.4 Accessibility Indemnification

Contractor shall indemnify, save, and hold harmless the state, its employees, agents and assignees (collectively, the "Indemnified Parties"), against any and all costs, expenses, claims, damages, liabilities, court awards and other amounts (including attorneys' fees and related costs) incurred by any of the Indemnified Parties in relation to Contractor's failure to comply with §§24-85-101, et seq., C.R.S., or the Accessibility Standards for Individuals with a Disability as established by the Office of Information Technology pursuant to Section §24-85-103 (2.5), C.R.S.

53.25 ACCESSIBILITY

Contractor shall comply with and the Work Product provided under this Contract shall be in compliance with all applicable provisions of §§24-85-101, et seq., C.R.S., and the Accessibility Standards for Individuals with a Disability, as established by the Governor's Office Of Information Technology (OIT), pursuant to Section §24-85-103 (2.5), C.R.S. Contractor shall also comply with all State of Colorado technology standards related to technology accessibility and with Level AA of the most current version of the Web Content Accessibility Guidelines (WCAG), incorporated in the State of Colorado technology standards.

53.25.1 The State may require Contractor's compliance to the State's Accessibility Standards to be determined by a third party selected by the State to attest to Contractor's Work Product and software is in compliance with §§24-85-101, et seq., C.R.S., and the Accessibility Standards for Individuals with a Disability as established by the Office of Information Technology pursuant to Section §24-85-103 (2.5), C.R.S.

SUPPLEMENTARY GENERAL CONDITIONS: FEDERAL PROVISIONS

1. APPLICABILITY OF PROVISIONS.

- 1.1. The Contract to which these Federal Provisions are attached has been funded, in whole or in part, with an Award of Federal funds. In the event of a conflict between the provisions of these Federal Provisions, the Special Provisions, the body of the Contract, or any attachments or exhibits incorporated into and made a part of the Contract, the provisions of these Federal Provisions shall control.
- 1.1. The State of Colorado is accountable to Treasury for oversight of their subrecipients, including ensuring their subrecipients comply with the SLFRF statute, SLFRF Award Terms and Conditions, Treasury's Final Rule, and reporting requirements, as applicable.
- 1.2. Additionally, any subrecipient that issues a subaward to another entity (2nd tier subrecipient), must hold the 2nd tier subrecipient accountable to these provisions and adhere to reporting requirements.
- 1.3. These Federal Provisions are subject to the Award as defined in §2 of these Federal Provisions, as may be revised pursuant to ongoing guidance from the relevant Federal or State of Colorado agency or institutions of higher education.

2. DEFINITIONS.

- 2.1. For the purposes of these Federal Provisions, the following terms shall have the meanings ascribed to them below.
 - 2.1.1. "Award" means an award of Federal financial assistance, and the Contract setting forth the terms and conditions of that financial assistance that a non-Federal Entity receives or administers.
 - 2.1.1.1. Awards may be in the form of:
 - 2.1.1.1.1. Grants;
 - 2.1.1.1.2. Contracts;
 - 2.1.1.1.3. Cooperative Contracts, which do not include cooperative research and development Contracts (CRDA) pursuant to the Federal Technology Transfer Act of 1986, as amended (15 U.S.C. 3710);
 - 2.1.1.1.4. Loans;
 - 2.1.1.1.5. Loan Guarantees;
 - 2.1.1.1.6. Subsidies;
 - 2.1.1.1.7. Insurance;
 - 2.1.1.1.8. Food commodities;
 - 2.1.1.1.9. Direct appropriations;
 - 2.1.1.1.10. Assessed and voluntary contributions; and
 - 2.1.1.1.11. Other financial assistance transactions that authorize the expenditure of Federal funds by non-Federal Entities.
 - 2.1.1.1.12. Any other items specified by OMB in policy memoranda available at the OMB website or other source posted by the OMB.
 - 2.1.1.2. Award does not include:
 - 2.1.1.2.1. Technical assistance, which provides services in lieu of money;
 - 2.1.1.2.2. A transfer of title to Federally-owned property provided in lieu of money; even if the award is called a grant;

- 2.1.1.2.3. Any award classified for security purposes; or
- 2.1.1.2.4. Any award funded in whole or in part with Recovery funds, as defined in section 1512 of the American Recovery and Reinvestment Act (ARRA) of 2009 (Public Law 111- 5).
- 2.1.2. “Contract” means the Contract to which these Federal Provisions are attached and includes all Award types in §2.1.1.1 of this Exhibit.
- 2.1.3. “Contractor” means a non-Federal Entity (or a Federal agency under an Agreement to a non-Federal Entity) receiving Federal funds through a Prime Recipient to support the performance of the Federal project or program for which the Federal funds were awarded. A Contractor is subject to the terms and conditions of the Federal Award to the Prime Recipient, including program compliance requirements. The term “Contractor” includes and may be referred to as “Subcontractor”. The term does not include an individual who is a beneficiary of a federal program.
- 2.1.4. ~~“Data Universal Numbering System (DUNS) Number” means the nine digit number established and assigned by Dun and Bradstreet, Inc. to uniquely identify a business entity. Dun and Bradstreet’s website may be found at: <http://fedgov.dnb.com/webform>.~~
- 2.1.5. “Entity” means all of the following as defined at 2 CFR part 25, subpart C; 2.1.5.1. A governmental organization, which is a State, local government, or Indian Tribe; 2.1.5.2. A foreign public entity;
 - 2.1.5.3. A domestic or foreign non-profit organization;
 - 2.1.5.4. A domestic or foreign for-profit organization; and
 - 2.1.5.5. A Federal agency, but only a Subrecipient under an Award or Subaward to a non-Federal entity.
- 2.1.6. “Executive” means an officer, managing partner or any other employee in a management position.
- 2.1.7. “Federal Award Identification Number (FAIN)” means an Award number assigned by a Federal agency to a Prime Recipient.
- 2.1.8. “Federal Awarding Agency” means a Federal agency providing a Federal Award to a Recipient as described in 2 CFR §200.37
- 2.1.9. “FFATA” means the Federal Funding Accountability and Transparency Act of 2006 (Public Law 109-282), as amended by §6202 of Public Law 110-252. FFATA, as amended, also is referred to as the “Transparency Act.”
- 2.1.10. “Federal Provisions” means these Federal Provisions subject to the Transparency Act and Uniform Guidance, as may be revised pursuant to ongoing guidance from the relevant Federal or State of Colorado agency or institutions of higher education.
- 2.1.11. “OMB” means the Executive Office of the President, Office of Management and Budget.
- 2.1.12. “Prime Recipient” means a Colorado State agency or institution of higher education that receives an Award.
- 2.1.13. “Subaward” means an award by a Recipient to a Subrecipient funded in whole or in part by a Federal Award. The terms and conditions of the Federal Award flow down to the Award unless the terms and conditions of the Federal Award specifically indicate otherwise in accordance with 2 CFR §200.38. The term does not include payments to a contractor or payments to an individual that is a beneficiary of a Federal program.
- 2.1.14. Not used
- 2.1.15. “Contractor Parent UEI Number” means the subrecipient parent organization’s 9-digit Universal Entity ID (UEI) number that appears in the subrecipient’s System for Award Management (SAM) profile, if applicable.
- 2.1.16. “System for Award Management (SAM)” means the Federal repository into which an Entity must enter the information required under the Transparency Act, which may be found at <http://www.sam.gov>.
- 2.1.17. “Total Compensation” means the cash and noncash dollar value earned by an Executive during the Prime Recipient’s or Subrecipient’s preceding fiscal year and includes the following:
 - 2.1.17.1. Salary and bonus;

- 2.1.17.2. Awards of stock, stock options, and stock appreciation rights, using the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2005) (FAS 123R), Shared Based Payments;
- 2.1.17.3. Earnings for services under non-equity incentive plans, not including group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of Executives and are available generally to all salaried employees;
- 2.1.17.4. Change in present value of defined benefit and actuarial pension plans; 2.1.17.5. Above-market earnings on deferred compensation which is not tax-qualified;
- 2.1.17.6. Other compensation, if the aggregate value of all such other compensation (e.g. severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the Executive exceeds \$10,000.
- 2.1.18. "Transparency Act" means the Federal Funding Accountability and Transparency Act of 2006 (Public Law 109-282), as amended by §6202 of Public Law 110-252. The Transparency Act also is referred to as FFATA.
- 2.1.19. "Uniform Guidance" means the Office of Management and Budget Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, which supersedes requirements from OMB Circulars A-21, A-87, A-110, and A-122, OMB Circulars A-89, A-102, and A-133, and the guidance in Circular A-50 on Single Audit Act follow-up. The terms and conditions of the Uniform Guidance flow down to Awards to Subrecipients unless the Uniform Guidance or the terms and conditions of the Federal Award specifically indicate otherwise.
- 2.1.20 "Unique Entity ID" means the Unique Entity ID established by the federal government for a Grantee at <https://sam.gov/content/home>.
- 2.1.20. "Vendor" means a dealer, distributor, merchant or other seller providing property or services required for a project or program funded by an Award. A Vendor is not a Prime Recipient or a Subrecipient and is not subject to the terms and conditions of the Federal award. Program compliance requirements do not pass through to a Vendor.

3. COMPLIANCE.

- 3.1. Contractor shall comply with all applicable provisions of the Transparency Act, all applicable provisions of the Uniform Guidance, and the regulations issued pursuant thereto, including but not limited to these Federal Provisions. Any revisions to such provisions or regulations shall automatically become a part of these Federal Provisions, without the necessity of either party executing any further instrument. The State of Colorado may provide written notification to Contractor of such revisions, but such notice shall not be a condition precedent to the effectiveness of such revisions.
- 3.2. Per US Treasury Final Award requirements, programs or services must not include terms or conditions that undermine efforts to stop COVID-19 or discourage compliance with recommendations and CDC guidelines.

4. SYSTEM FOR AWARD MANAGEMENT (SAM) AND DATA UNIVERSAL NUMBERING SYSTEM (DUNS) REQUIREMENTS.

- 4.1. SAM. Contractor shall maintain the currency of its information in SAM until the Contractor submits the final financial report required under the Award or receives final payment, whichever is later. Contractor shall review and update SAM information at least annually after the initial registration, and more frequently if required by changes in its information.
- 4.2. UEI. Grantee shall provide its Unique Entity ID to its Prime Recipient, and shall update Grantee's information in SAM.gov at least annually after the initial registration, and more frequently if required by changes in Grantee's information.

5. TOTAL COMPENSATION.

- 5.1. Contractor shall include Total Compensation in SAM for each of its five most highly compensated Executives for the preceding fiscal year if:
 - 5.1.1. The total Federal funding authorized to date under the Award is \$30,000 or more; and
 - 5.1.2. In the preceding fiscal year, Contractor received:
 - 5.1.2.1. 80% or more of its annual gross revenues from Federal procurement contracts and subcontracts and/or Federal financial assistance Awards or Subawards subject to the Transparency Act; and
 - 5.1.2.2. \$25,000,000 or more in annual gross revenues from Federal procurement contracts and subcontracts and/or Federal financial assistance Awards or Subawards subject to the Transparency Act; and
 - 5.1.3. The public does not have access to information about the compensation of such Executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d) or § 6104 of the Internal Revenue Code of 1986.

6. REPORTING.

- 6.1. Contractor shall report data elements to SAM and to the Prime Recipient as required in this Exhibit if Contractor is a Subrecipient for the Award pursuant to the Transparency Act. No direct payment shall be made to Contractor for providing any reports required under these Federal Provisions and the cost of producing such reports shall be included in the Contract price. The reporting requirements in this Exhibit are based on guidance from the US Office of Management and Budget (OMB), and as such are subject to change at any time by OMB. Any such changes shall be automatically incorporated into this Contract and shall become part of Contractor's obligations under this Contract.

7. EFFECTIVE DATE AND DOLLAR THRESHOLD FOR REPORTING.

- 7.1. Reporting requirements in §8 below apply to new Awards as of October 1, 2010, if the initial award is \$30,000 or more. If the initial Award is below \$30,000 but subsequent Award modifications result in a total Award of \$30,000 or more, the Award is subject to the reporting requirements as of the date the Award exceeds \$30,000. If the initial Award is \$30,000 or more, but funding is subsequently de-obligated such that the total award amount falls below \$30,000, the Award shall continue to be subject to the reporting requirements. If the total award is below \$30,000 no reporting required; if more than \$30,000 and less than \$50,000 then FFATA reporting is required; and, \$50,000 and above SLFRF reporting is required.
- 7.2. The procurement standards in §9 below are applicable to new Awards made by Prime Recipient as of December 26, 2015. The standards set forth in §11 below are applicable to audits of fiscal years beginning on or after December 26, 2014.

8. SUBRECIPIENT REPORTING REQUIREMENTS.

- 8.1. If Contractor is a Subrecipient, Contractor shall report as set forth below.
 - 8.1.1. To SAM. A Subrecipient shall register in SAM and report the following data elements in SAM for each Federal Award Identification Number no later than the end of the month following the month in which the Subaward was made:
 - 8.1.1.1. Subrecipient UEI Number;
 - 8.1.1.2. Subrecipient UEI Number + 4 if more than one electronic funds transfer (EFT) account;
 - 8.1.1.3. Subrecipient Parent UEI Number;
 - 8.1.1.4. Subrecipient's address, including: Street Address, City, State, Country, Zip + 4, and Congressional District;
 - 8.1.1.5. Subrecipient's top 5 most highly compensated Executives if the criteria in §4 above are met; and
 - 8.1.1.6. Subrecipient's Total Compensation of top 5 most highly compensated Executives if criteria in §4 above met.
 - 8.1.2. To Prime Recipient. A Subrecipient shall report to its Prime Recipient, upon the effective date of the Contract, the following data elements:

8.1.2.1. Subrecipient's UEI Number as registered in SAM.

8.1.2.2. Primary Place of Performance Information, including: Street Address, City, State, Country, Zip code + 4, and Congressional District.

9. PROCUREMENT STANDARDS.

- 9.1. Procurement Procedures. A Subrecipient shall use its own documented procurement procedures which reflect applicable State, local, and Tribal laws and regulations, provided that the procurements conform to applicable Federal law and the standards identified in the Uniform Guidance, including without limitation, §§200.318 through 200.326 thereof.
- 9.2. Procurement of Recovered Materials (2 CFR 200.322). If a Subrecipient is a State Agency or an agency of a political subdivision of the State, its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.
- 9.3. Domestic preference for procurements (2 CFR 200.322). As appropriate and to the extent consistent with law, the non-Federal entity should, to the greatest extent practicable under a Federal award, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subawards including all Agreements and purchase orders for work or products under this award.

10. ACCESS TO RECORDS

- 10.1. A Subrecipient shall permit Recipient and auditors to have access to Subrecipient's records and financial statements as necessary for Recipient to meet the requirements of §200.331 (Requirements for pass-through entities), §§200.300 (Statutory and national policy requirements) through 200.309 (Period of performance), and Subpart F-Audit Requirements of the Uniform Guidance. 2 CFR §200.331(a)(5).

11. SINGLE AUDIT REQUIREMENTS

- 11.1. If a Subrecipient expends \$750,000 or more in Federal Awards during the Subrecipient's fiscal year, the Subrecipient shall procure or arrange for a single or program-specific audit conducted for that year in accordance with the provisions of Subpart F-Audit Requirements of the Uniform Guidance, issued pursuant to the Single Audit Act Amendments of 1996, (31 U.S.C. 7501-7507). 2 CFR §200.501.
 - 11.1.1. Election. A Subrecipient shall have a single audit conducted in accordance with Uniform Guidance §200.514 (Scope of audit), except when it elects to have a program-specific audit conducted in accordance with §200.507 (Program-specific audits). The Subrecipient may elect to have a program-specific audit if Subrecipient expends Federal Awards under only one Federal program (excluding research and development) and the Federal program's statutes, regulations, or the terms and conditions of the Federal award do not require a financial statement audit of Prime Recipient. A program-specific audit may not be elected for research and development unless all of the Federal Awards expended were received from Recipient and Recipient approves in advance a program-specific audit.
 - 11.1.2. Exemption. If a Subrecipient expends less than \$750,000 in Federal Awards during its fiscal year, the Subrecipient shall be exempt from Federal audit requirements for that year, except as noted in 2 CFR §200.503 (Relation to other audit requirements), but records shall be available for review or audit by appropriate officials of the Federal agency, the State, and the Government Accountability Office.
 - 11.1.3. Subrecipient Compliance Responsibility. A Subrecipient shall procure or otherwise arrange for the audit required by Part F of the Uniform Guidance and ensure it is properly performed and submitted when due in accordance with the Uniform Guidance. Subrecipient shall prepare appropriate financial statements, including the schedule of expenditures of Federal awards in accordance with Uniform Guidance §200.510 (Financial statements) and provide the auditor with access to personnel, accounts, books, records,

supporting documentation, and other information as needed for the auditor to perform the audit required by Uniform Guidance Part F-Audit Requirements.

12. CONTRACT PROVISIONS FOR CONTRACTORS AND SUBCONTRACTORS

- 12.1. Contractors shall comply with and shall include all of the following applicable provisions in all subcontracts entered into by it pursuant to this Contract and any provisions required by 2 CFR 200 Appendix II.
 - 12.1.1. Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of “federally assisted construction contract” in 41 CFR Part 60-1.3 shall include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, “Equal Employment Opportunity” (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” and implementing regulations at 41 CFR part 60, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.
 - 12.1.1.1. During the performance of this contract, the contractor agrees as follows:
 - 12.1.1.1.1. Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. 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 by the contracting officer setting forth the provisions of this nondiscrimination clause.
 - 12.1.1.1.2. 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, color, religion, sex, or national origin.
 - 12.1.1.1.3. Contractor will send to each labor union or representative of workers with which he has a collective bargaining Contract or other contract or understanding, a notice to be provided by the agency contracting officer, advising the labor union or workers’ representative of the contractor's commitments under section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
 - 12.1.1.1.4. Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
 - 12.1.1.1.5. Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
 - 12.1.1.1.6. In the event of Contractor's non-compliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
 - 12.1.1.1.7. Contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States.”

- 12.1.2. Davis-Bacon Act. Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of \$2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, “Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction”). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland “Anti-Kickback” Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, “Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States”). The Act provides that each contractor or Subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.
- 12.1.3. Rights to Inventions Made Under a Contract or Contract. If the Federal Award meets the definition of “funding Contract” under 37 CFR §401.2 (a) and Subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding Contract,” Subrecipient must comply with the requirements of 37 CFR Part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Contracts,” and any implementing regulations issued by the awarding agency.
- 12.1.4. Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended. Contracts and subgrants of amounts in excess of \$150,000 must contain a provision that requires the non-Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).
- 12.1.5. Debarment and Suspension (Executive Orders 12549 and 12689). A contract award (see 2 CFR 180.220) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), “Debarment and Suspension.” SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.
- 12.1.6. Byrd Anti-Lobbying Amendment (31 U.S.C. 1352). Contractors that apply or bid for an award exceeding \$100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.
- 12.1.7. Prohibition on certain telecommunications and video surveillance services or equipment (2 CFR 200.216). Grantee is prohibited from obligating or expending loan or grant funds on certain telecommunications and video surveillance services or equipment pursuant to 2 CFR 200.216.
- 12.1.8. Never Contract with the Enemy (2 CFR 200.215). Federal awarding agencies and recipients are subject to the regulations implementing “Never Contract with the Enemy” in 2 CFR part 183. The regulations in 2 CFR part 183 affect covered Agreements, grants and cooperative agreements that are expected to exceed \$50,000 within the period of performance, are performed outside the United States and its territories, and

are in support of a contingency operation in which members of the Armed Forces are actively engaged in hostilities.

- 12.1.9. Title VI of the Civil Rights Act. The Subgrantee, Contractor, Subcontractor, transferee, and assignee shall comply with Title VI of the Civil Rights Act of 1964, which prohibits recipients of federal financial assistance from excluding from a program or activity, denying benefits of, or otherwise discriminating against a person on the basis of race, color, or national origin (42 U.S.C. § 2000d et seq.), as implemented by the Department of Treasury's Title VI regulations, 31 CFR Part 22, which are herein incorporated by reference and made a part of this Agreement (or agreement). Title VI also includes protection to persons with "Limited English Proficiency" in any program or activity receiving federal financial assistance, 42 U.S.C. § 2000d et seq., as implemented by the Department of the Treasury's Title VI regulations, 31 CFR Part 22, and herein incorporated by reference and made part of this Agreement or agreement.
- 12.1.10 Contract Work Hours and Safety Standards Act ([40 U.S.C. 3701-3708](#)). Where applicable, all contracts awarded by the non-Federal entity in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with [40 U.S.C. 3702](#) and [3704](#), as supplemented by Department of Labor regulations ([29 CFR Part 5](#)). Under [40 U.S.C. 3702](#) of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of [40 U.S.C. 3704](#) are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.
- 12.1.11 Procurement of Recovered Materials (2 CFR 200.323) See Section 9.2
- 12.1.12 Domestic preference for procurements (2 CFR 200.322) See Section 9.3
- 12.1.13 Real Property Disposition (2 CFR 200.311) When real property is no longer needed for the originally authorized purpose, the non-Federal entity must obtain disposition instructions from the Federal awarding agency or pass-through entity.

13. CERTIFICATIONS.

- 13.1. Unless prohibited by Federal statutes or regulations, Recipient may require Contractor to submit certifications and representations required by Federal statutes or regulations on an annual basis. 2 CFR §200.208. Submission may be required more frequently if Contractor fails to meet a requirement of the Federal award. Contractor shall certify in writing to the State at the end of the Award that the project or activity was completed or the level of effort was expended. 2 CFR §200.201(3). If the required level of activity or effort was not carried out, the amount of the Award must be adjusted.

14. EXEMPTIONS.

- 14.1. These Federal Provisions do not apply to an individual who receives an Award as a natural person, unrelated to any business or non-profit organization he or she may own or operate in his or her name.
- 14.2. A Contractor with gross income from all sources of less than \$300,000 in the previous tax year is exempt from the requirements to report Subawards and the Total Compensation of its most highly compensated Executives.

15. EVENT OF DEFAULT AND TERMINATION.

- 15.1. Failure to comply with these Federal Provisions shall constitute an event of default under the Contract and the State of Colorado may terminate the Contract upon 30 days prior written notice if the default remains uncured five calendar days following the termination of the 30 day notice period. This remedy will be in addition to any other remedy available to the State of Colorado under the Contract, at law or in equity.
- 15.2. Termination (2 CFR 200.340). The Federal Award may be terminated in whole or in part as follows:
 - § By the Federal Awarding Agency or Prime Recipient, if a Contractor fails to comply with the terms and conditions of a Federal Award;

- § By the Federal awarding agency or Prime Recipient, to the greatest extent authorized by law, if an award no longer effectuates the program goals or agency priorities;
- § By the Federal awarding agency or Prime Recipient with the consent of the Contractor, in which case the two parties must agree upon the termination conditions, including the effective date and, in the case of partial termination, the portion to be terminated;
- § By the Prime Recipient upon sending to the Federal Awarding Agency or Prime Recipient written notification setting forth the reasons for such termination, the effective date, and, in the case of partial termination, the portion to be terminated. However, if the Federal Awarding Agency or Prime Recipient determines in the case of partial termination that the reduced or modified portion of the Federal Award or Contract will not accomplish the purposes for which the Federal Award was made, the Federal Awarding Agency or Prime Recipient may terminate the Federal Award in its entirety; or by the Federal Awarding Agency or Prime Recipient pursuant to termination provisions included in the Federal Award.

End of Supplementary General Conditions: Federal Provision

**SLFRF FEDERAL FUNDS
CONTRACTOR TERMS AND CONDITIONS**

FEDERAL AWARD(S) APPLICABLE TO THIS GRANT AWARD

Federal Awarding Office	US Department of the Treasury
Grant Program	Coronavirus State and Local Fiscal Recovery Funds
Assistance Listing Number	21.027
Federal Award Number	SLFRP0126
Federal Award Date *	May 18, 2021
Federal Award End Date	December 31, 2024
Federal Statutory Authority	Title VI of the Social Security Act, Section 602
Total Amount of Federal Award (this is <u>not</u> the amount of this grant agreement)	\$3,828,761,790
Approved Expenditure Category	

* Funds may not be available through the Federal Award End Date subject to the provisions in §2 and §5 below.

Section 602(b) of the Social Security Act (the Act), as added by section 9901 of the American Rescue Plan Act (ARPA), Pub. L. No. 117-2 (March 11, 2021), authorizes the Department of the Treasury (Treasury) to make payments to certain recipients from the Coronavirus State Fiscal Recovery Fund. As a condition of your organization receiving federal recovery funds from the State, the authorized representative below hereby (i) certifies that your organization will carry out the activities listed in section 602(c) of the Act and (ii) agrees to the terms attached hereto. Your organization also agrees to use the federal recovery funds as specified in bills passed by the General Assembly and signed by the Governor.

Under penalty of perjury, the undersigned official certifies that the authorized representative has read and understood the organization's obligations in the Assurances of Compliance and Civil Rights Requirements, that any information submitted in conjunction with this assurances document is accurate and complete, and that the organization is in compliance with the nondiscrimination requirements.

Contractor Name _____

Authorized Representative: _____

Title: _____

Signature: _____

SLFRF FEDERAL FUNDS CONTRACTOR TERMS AND CONDITIONS

1. Use of Funds.
 - a. Contractor understands and agrees that the funds disbursed under this award may only be used in compliance with section 602(c) of the Social Security Act (the Act) and Treasury's regulations implementing that section and guidance.
 - b. Contractor will determine prior to engaging in any project using this assistance that it has the institutional, managerial, and financial capability to ensure proper planning, management, and completion of such project.
2. Period of Performance. The period of performance for this agreement is shown on page one of this Agreement. Contractor may use funds to cover eligible costs incurred, as set forth in Treasury's implementing regulations, during this period of performance.
3. Reporting. Contractor agrees to comply with any reporting obligations established by Treasury as they relate to this agreement. Contractor also agrees to comply with any reporting requirements established by the Governor's Office and Office of the State Controller. The State will provide notice of such additional reporting requirements in writing.
4. Maintenance of and Access to Records
 - a. Contractor shall maintain records and financial documents sufficient to evidence compliance with section 602(c), Treasury's regulations implementing that section, and guidance issued by Treasury regarding the foregoing.
 - b. The Treasury Office of Inspector General and the Government Accountability Office, or their authorized representatives, shall have the right of access to records (electronic and otherwise) of Contractor in order to conduct audits or other investigations.
 - c. Records shall be maintained by Contractor for a period of five (5) years after all funds have been expended or returned to Treasury, whichever is later.
5. Pre-award Costs. Pre-award costs, as defined in 2 C.F.R. § 200.458, may not be paid with funding from this award.
6. Administrative Costs. Contractor may use funds provided under this agreement to cover both direct and indirect costs.
7. Conflicts of Interest. Contractors must disclose in writing to the contracting entity, as appropriate, any potential conflict of interest affecting the awarded funds in accordance with 2 C.F.R. § 200.112.

8. Compliance with Applicable Law and Regulations.

- a. Contractor agrees to comply with the requirements of section 602 of the Act, regulations adopted by Treasury pursuant to section 602(f) of the Act, and guidance issued by Treasury regarding the foregoing. Contractor also agrees to comply with all other applicable federal statutes, regulations, and executive orders, and Contractor shall provide for such compliance by other parties in any agreements it enters into with other parties relating to this award.
 - i. Per US Treasury Final Award requirements, programs and services must not include terms or conditions that undermine efforts to stop COVID-19 or discourage compliance with recommendations and CDC guidelines.
- b. Federal regulations applicable to this award include, without limitation, the following:
 - i. Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, 2 C.F.R. Part 200, other than such provisions as Treasury may determine are inapplicable to this Agreement and subject to such exceptions as may be otherwise provided by Treasury. Subpart F – Audit Requirements of the Uniform Guidance, implementing the Single Audit Act, shall apply to this award.
 - ii. Universal Identifier and System for Award Management (SAM), 2 C.F.R. Part 25, pursuant to which the award term set forth in Appendix A to 2 C.F.R. Part 25 is hereby incorporated by reference.
 - iii. Reporting Subaward and Executive Compensation Information, 2 C.F.R. Part 170, pursuant to which the award term set forth in Appendix A to 2 C.F.R. Part 170 is hereby incorporated by reference.
 - iv. OMB Guidelines to Agencies on Government wide Debarment and Suspension (Nonprocurement), 2 C.F.R. Part 180, including the requirement to include a term or condition in all lower tier covered transactions (Agreements and Subcontractors described in 2 C.F.R. Part 180, subpart B) that the award is subject to 2 C.F.R. Part 180 and Treasury’s implementing regulation at 31 C.F.R. Part 19.
 - v. Subrecipient Integrity and Performance Matters, pursuant to which the award term set forth in 2 C.F.R. Part 200, Appendix XII to Part 200 is hereby incorporated by reference.
 - vi. Government wide Requirements for Drug-Free Workplace, 31 C.F.R. Part 20.
 - vii. New Restrictions on Lobbying, 31 C.F.R. Part 21.
 - viii. Uniform Relocation Assistance and Real Property Acquisitions Act of 1970

(42 U.S.C. §§ 4601-4655) and implementing regulations.

- ix. Generally applicable federal environmental laws and regulations.
- c. Statutes and regulations prohibiting discrimination applicable to this agreement include, without limitation, the following:
- i. Title VI of the Civil Rights Act of 1964 (42 U.S.C. §§ 2000d et seq.) and Treasury's implementing regulations at 31 C.F.R. Part 22, which prohibit discrimination on the basis of race, color, or national origin under programs or activities receiving federal financial assistance;
 - ii. The Fair Housing Act, Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§ 3601 et seq.), which prohibits discrimination in housing on the basis of race, color, religion, national origin, sex, familial status, or disability;
 - iii. Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of disability under any program or activity receiving federal financial assistance;
 - iv. The Age Discrimination Act of 1975, as amended (42 U.S.C. §§ 6101 et seq.), and Treasury's implementing regulations at 31 C.F.R. Part 23, which prohibit discrimination on the basis of age in programs or activities receiving federal financial assistance; and
 - v. Title II of the Americans with Disabilities Act of 1990, as amended (42 U.S.C. §§ 12101 et seq.), which prohibits discrimination on the basis of disability under programs, activities, and services provided or made available by state and local governments or instrumentalities or agencies thereto.
9. Remedial Actions. In the event of any noncompliance with section 602 of the Act, other applicable laws, Treasury's implementing regulations, guidance, or any reporting or other program requirements, Treasury may impose additional conditions on the receipt of a subsequent tranche of future award funds, if any, or take other available remedies as set forth in 2 C.F.R. § 200.339. In the case of a violation of section 602(c) of the Act regarding the use of funds, previous payments shall be subject to recoupment as provided in section 602(e) of the Act and any additional payments may be subject to withholding as provided in sections 602(b)(6)(A)(ii)(III) of the Act, as applicable.
10. Hatch Act. Recipient agrees to comply, as applicable, with requirements of the Hatch Act (5 U.S.C. §§ 1501-1508 and 7324-7328), which limit certain political activities of State or local government employees whose principal employment is in connection with an activity financed in whole or in part by this federal assistance.
11. False Statements. Recipient understands that making false statements or claims in connection with this award is a violation of federal law and may result in criminal, civil, or administrative

sanctions, including fines, imprisonment, civil damages and penalties, debarment from participating in federal awards or Agreements, and/or any other remedy available by law.

12. Publications. Any publications produced with funds from this award must display the following language: “This project [is being] [was] supported, in whole or in part, by federal award number SLFRF0126 awarded to the State of Colorado by the U.S. Department of the Treasury.”

13. Debts Owed the Federal Government.

- a. Any funds paid to the Contractor (1) in excess of the amount to which the Contractor is finally determined to be authorized to retain under the terms of this award; (2) that are determined by the Treasury Office of Inspector General to have been misused; or (3) that are determined by Treasury to be subject to a repayment obligation pursuant to sections 602(e) and 603(b)(2)(D) of the Act and have not been repaid by the Contractor shall constitute a debt to the federal government.
- b. Any debts determined to be owed to the federal government must be paid promptly by the Contractor. A debt is delinquent if it has not been paid by the date specified in Treasury’s initial written demand for payment, unless other satisfactory arrangements have been made or if the Contractor knowingly or improperly retains funds that are a debt as defined in paragraph 14(a). Treasury will take any actions available to it to collect such a debt.

14. Disclaimer.

- a. The United States expressly disclaims any and all responsibility or liability to Contractor or third persons for the actions of Contractor or third persons resulting in death, bodily injury, property damages, or any other losses resulting in any way from the performance of this agreement or any other losses resulting in any way from the performance of this Agreement or any Agreement, or Subcontractor under this award.
- b. The acceptance of this agreement by Contractor does not in any way establish an agency relationship between the United States and Contractor.

15. Protections for Whistleblowers.

- a. In accordance with 41 U.S.C. § 4712, Contractor may not discharge, demote, or otherwise discriminate against an employee in reprisal for disclosing to any of the list of persons or entities provided below, information that the employee reasonably believes is evidence of gross mismanagement of a federal Agreement or grant, a gross waste of federal funds, an abuse of authority relating to a federal Agreement or grant, a substantial and specific danger to public health or safety, or a violation of law, rule, or regulation related to a federal Agreement (including the competition for or negotiation of an Agreement) or grant.
- b. The list of persons and entities referenced in the paragraph above includes the following:
 - i. A member of Congress or a representative of a committee of Congress;
 - ii. An Inspector General;
 - iii. The Government Accountability Office;

- iv. A Treasury employee responsible for Agreement or grant oversight or management;
- v. An authorized official of the Department of Justice or other law enforcement agency;
- vi. A court or grand jury; or
- vii. A management official or other employee of Subrecipient, Contractor, or Subcontractor who has the responsibility to investigate, discover, or address misconduct.

c. Contractor shall inform its employees in writing of the rights and remedies provided under this section, in the predominant native language of the workforce.

16. Increasing Seat Belt Use in the United States. Pursuant to Executive Order 13043, 62 FR 19217 (Apr. 18, 1997), Prime Recipient should encourage its Contractors to adopt and enforce on-the-job seat belt policies and programs for their employees when operating company-owned, rented or personally owned vehicles.
17. Reducing Text Messaging While Driving. Pursuant to Executive Order 13513, 74 FR 51225 (Oct. 6, 2009), Prime Recipient should encourage its employees, Subrecipients, and Contractors to adopt and enforce policies that ban text messaging while driving, and Contractors should establish workplace safety policies to decrease accidents caused by distracted drivers.

ASSURANCES OF COMPLIANCE WITH CIVIL RIGHTS REQUIREMENTS

ASSURANCES OF COMPLIANCE WITH TITLE VI OF THE CIVIL RIGHTS ACT OF 1964

As a condition of receipt of federal financial assistance from the Department of the Treasury, through the Prime Recipient, the Contractor provides the assurances stated herein. The federal financial assistance may include federal grants, loans and Agreements to provide assistance to the Prime Recipient's residents, the use or rent of Federal land or property at below market value, Federal training, a loan of Federal personnel, subsidies, and other arrangements with the intention of providing assistance. Federal financial assistance does not encompass Agreements of guarantee or insurance, regulated programs, licenses, procurement Agreements by the Federal government at market value, or programs that provide direct benefits.

The assurances apply to all federal financial assistance from or funds made available through the Department of the Treasury, including any assistance that the Prime Recipient may request in the future.

The Civil Rights Restoration Act of 1987 provides that the provisions of the assurances apply to all of the operations of the Prime Recipient's program(s) and activity(ies), so long as any portion of the Prime Recipient's program(s) or activity(ies) is federally assisted in the manner prescribed above.

1. Contractor ensures its current and future compliance with Title VI of the Civil Rights Act of 1964, as amended, which prohibits exclusion from participation, denial of the benefits of, or subjection to discrimination under programs and activities receiving federal financial assistance, of any person in the United States on the ground of race, color, or national origin (42 U.S.C. § 2000d *et seq.*), as implemented by the Department of the Treasury Title VI regulations at 31 CFR Part 22 and other pertinent executive orders such as Executive Order 13166, directives, circulars, policies, memoranda, and/or guidance documents.
2. Contractor acknowledges that Executive Order 13166, "Improving Access to Services for Persons with Limited English Proficiency," seeks to improve access to federally assisted programs and activities for individuals who, because of national origin, have Limited English proficiency (LEP). Contractor understands that denying a person access to its programs, services, and activities because of LEP is a form of national origin discrimination prohibited under Title VI of the Civil Rights Act of 1964 and the Department of the Treasury's implementing regulations. Accordingly, Contractor shall initiate reasonable steps, or comply with the Department of the Treasury's directives, to ensure that LEP persons have meaningful access to its programs, services, and activities. Contractor understands and agrees that meaningful access may entail providing language assistance services, including oral interpretation and written translation where necessary, to ensure effective communication in the Contractor's programs, services, and activities.

3. Contractor agrees to consider the need for language services for LEP persons when Contractor develops applicable budgets and conducts programs, services, and activities. As a resource, the Department of the Treasury has published its LEP guidance at 70 FR 6067. For more information on taking reasonable steps to provide meaningful access for LEP persons, please visit <http://www.lep.gov>.
4. Contractor acknowledges and agrees that compliance with the assurances constitutes a condition of continued receipt of federal financial assistance through the Prime Recipient and is binding upon Contractor and Contractor's successors, transferees, and assignees for the period in which such assistance is provided.
5. Contractor acknowledges and agrees that it must require any sub-grantees, contractors, subcontractors, successors, transferees, and assignees to comply with assurances 1-4 above, and agrees to incorporate the following language in every Agreement or agreement subject to Title VI and its regulations between the Contractor and the Contractor's sub-grantees, Contractors, Subcontractors, successors, transferees, and assignees:

The sub-grantee, Contractor, Subcontractor, successor, transferee, and assignee shall comply with Title VI of the Civil Rights Act of 1964, which prohibits Prime Recipients and Contractors of Prime Recipients of federal financial assistance from excluding from a program or activity, denying benefits of, or otherwise discriminating against a person on the basis of race, color, or national origin (42 U.S.C. § 2000d et seq.), as implemented by the Department of the Treasury's Title VI regulations, 31 CFR Part 22, which are herein incorporated by reference and made a part of this Agreement (or agreement). Title VI also includes protection to persons with "Limited English Proficiency" in any program or activity receiving federal financial assistance, 42 U.S.C. § 2000d et seq., as implemented by the Department of the Treasury's Title VI regulations, 31 CFR Part 22, and herein incorporated by reference and made a part of this Agreement or agreement.

6. Contractor understands and agrees that if any real property or structure is provided or improved with the aid of federal financial assistance by the Department of the Treasury, this assurance obligates the Prime Recipient and Contractor, or in the case of a subsequent transfer, the transferee, for the period during which the real property or structure is used for a purpose for which the federal financial assistance is extended or for another purpose involving the provision of similar services or benefits. If any personal property is provided, this assurance obligates the Contractor for the period during which it retains ownership or possession of the property.
7. Contractor shall cooperate in any enforcement or compliance review activities by the Department of the Treasury of the aforementioned obligations. Enforcement may include investigation, arbitration, mediation, litigation, and monitoring of any settlement agreements that may result from these actions. The Contractor shall

comply with information requests, on-site compliance reviews and reporting requirements.

8. Contractor shall maintain a complaint log and inform the Department of the Treasury of any complaints of discrimination on the grounds of race, color, or national origin, and limited English proficiency covered by Title VI of the Civil Rights Act of 1964 and implementing regulations and provide, upon request, a list of all such reviews or proceedings based on the complaint, pending or completed, including outcome. Contractor also must inform the Department of the Treasury if Contractor has received no complaints under Title VI.
9. Contractor must provide documentation of an administrative agency's or court's findings of non-compliance of Title VI and efforts to address the non-compliance, including any voluntary compliance or other agreements between the Contractor and the administrative agency that made the finding. If the Contractor settles a case or matter alleging such discrimination, the Contractor must provide documentation of the settlement. If Contractor has not been the subject of any court or administrative agency finding of discrimination, please so state.
10. If the Contractor makes sub-contracts to other agencies or other entities, the Contractor is responsible for ensuring that sub-contractors also comply with Title VI and other applicable authorities covered in this document Contractors that make sub-contracts must have in place standard contract assurances and review procedures to demonstrate that that they are effectively monitoring the civil rights compliance of sub- contractors.

The United States of America has the right to seek judicial enforcement of the terms of this assurances document and nothing in this document alters or limits the federal enforcement measures that the United States may take in order to address violations of this document or applicable federal law.

"General Decision Number: C020220022 11/04/2022

Superseded General Decision Number: C020210022

State: Colorado

Construction Type: Building

County: El Paso County in Colorado.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

<p>If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:</p>	<ul style="list-style-type: none"> . Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
<p>If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:</p>	<ul style="list-style-type: none"> . Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Modification Number	Publication Date
0	01/07/2022
1	01/28/2022

2	02/18/2022
3	02/25/2022
4	05/06/2022
5	07/01/2022
6	07/08/2022
7	08/05/2022
8	08/12/2022
9	11/04/2022

ASBE0028-002 03/01/2022

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR - MECHANICAL (Duct, Pipe & Mechanical System Insulation).....	\$ 32.98	15.47

ELEC0113-005 06/01/2022

	Rates	Fringes
ELECTRICIAN (Includes Low Voltage Wiring).....	\$ 34.90	17.25

ELEV0025-001 01/01/2022

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 49.74	36.885

FOOTNOTE:

- a. Vacation: 6%/under 5 years based on regular hourly rate for all hours worked. 8%/over 5 years based on regular hourly rate for all hours worked.
- b. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Veterans' Day; Thanksgiving Day; the Friday after Thanksgiving Day; and Christmas Day.

ENGI0009-017 05/01/2021

	Rates	Fringes
POWER EQUIPMENT OPERATOR (Crane)		
141 tons and over.....	\$ 35.17	12.35
50 tons and under.....	\$ 31.70	12.35
51 to 90 tons.....	\$ 31.97	12.35
91 to 140 tons.....	\$ 33.05	12.35

IRON0024-009 12/01/2021

	Rates	Fringes
IRONWORKER, ORNAMENTAL.....	\$ 31.00	14.25

IRON0024-011 12/01/2021

	Rates	Fringes
IRONWORKER, STRUCTURAL.....	\$ 31.00	14.25

PAIN0079-009 08/01/2017

	Rates	Fringes
PAINTER (Spray).....	\$ 20.50	8.41

PLAS0577-002 05/01/2020		

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 29.00	12.95

PLUM0058-003 07/01/2022		

	Rates	Fringes
PLUMBER (Excludes HVAC Duct, Pipe and Unit Installation).....	\$ 37.70	16.69

PLUM0058-004 07/01/2022		

	Rates	Fringes
PIPEFITTER, Includes HVAC Pipe Installation (Excludes HVAC Duct and Unit Installation).....	\$ 37.70	16.69

SFC00669-002 04/01/2022		

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers).....	\$ 41.46	25.84

* SHEE0009-009 07/01/2022		

	Rates	Fringes
SHEET METAL WORKER, Includes HVAC Duct Installation (Excludes HVAC Pipe and Unit Installation).....	\$ 37.17	20.05

* SUC02013-008 07/31/2015		

	Rates	Fringes
BRICKLAYER.....	\$ 21.96	0.00
CARPENTER.....	\$ 22.63	6.98
LABORER: Common or General.....	\$ 13.40 **	1.40
LABORER: Mason Tender - Brick...	\$ 15.99	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 16.00	0.00
LABORER: Pipelayer.....	\$ 16.96	3.68
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 20.26	8.62
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 18.58	2.42

OPERATOR: Grader/Blade.....	\$ 21.50	0.00
PAINTER (Brush and Roller).....	\$ 17.20	0.00
ROOFER.....	\$ 16.71	0.00
SHEET METAL WORKER (HVAC Unit Installation Only).....	\$ 24.00	2.18
TRUCK DRIVER: Dump Truck.....	\$ 17.34	0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====
** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$15.00) or 13658 (\$11.25). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example:

PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISIO"

COLORADO APPRENTICE/JOURNEYMEN TRAINING

TRADE

International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers	
Local Union #101	
<p>Any member of The International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers may call himself or herself a Boilermaker, and many do even though they do not actually work in boiler construction and repair. Many also refer to themselves by some other trade our union represents through its many divisions. So you may hear our members refer to themselves as blacksmiths, forgers, ship builders, cement workers, stove workers, metal polishers, or numerous other job descriptions.</p> <p>Our members fabricate, erect and repair systems and components throughout the commercial and industrial sector of the Power Generation, Pollution Control, Petro-Chemical, Steel, Pulp & Paper, Ship Repair, Mining, Storage Tanks, Towers & Pressure Vessels, Cement and other related industries.</p>	
Geographic Region:	Colorado Apprenticeship Rate \$ 1.50

International Union of Bricklayers and Allied Craft Workers (CO/WY)	
Local Union #07	
Geographic Region:	Colorado unless noted otherwise
description here	
Refractory Projects	Apprenticeship Rate \$ 0.25
Tile, Terrazzo, Marble Stone, Finishers	Apprenticeship Rate \$ 0.25
Masonry - Northern Counties	Apprenticeship Rate \$ 0.25
Masonry - Southern Counties	Apprenticeship Rate \$ 0.25

Carpet, Linoleum and Resilient Tile Layers (IUPAT)	
Local Union #419	
<p>Floor and decorative covering workers' work will includes measuring, cutting, fabricating, fitting, installing to be cemented, tacked or otherwise applied to its base and/or underlayment(s); whether used either as a decorative covering, topping or as an acoustical appliance such as carpets, sheet rubber, sheet linoleum, sheet vinyl, laminate floors and laminate floor systems, rubber tile, linoleum tile, asphalt tile, cork flooring, interlocking tile, vinyl tile, vinyl composition tile, composition in sheet or tile form, top set base of any kind including profile rubber base, and all derivatives of above; artificial turf and its derivatives which includes the operation, maintenance and repair of the following equipment when used in the installation of artificial turf and its derivatives (forklifts, air compressors and any attachments, skid steer, skip loader, utility cart/top dresser and lay-more ride on sweeper); all resilient seamless materials such as epoxy, polyurethane, plastics, resinous and liquid flooring and their derivatives; installation of solid wood and solid glue down wood; The fitting of all devices for the attachment of the above materials and the fitting of all decorative or protective trim to and adjoining the above materials this also includes but is not limited to sanding, substrate preparation and the application of all self-leveling, trowelable and board underlayments; the removal of the aforementioned installed material from its base and/or underlayments as required; the cleaning of rugs or carpets and all drapery, make-up and the installation of drapes and window treatments; the application of moisture barrier and/or membrane in connection with the installation and flooring covered above.</p>	
Geographic Region:	Apprenticeship Rate \$ 0.29

Glazier, Architectural Metal and Glass Workers, (IUPAT)	
Local Union #930	
<p>The Glazing industry is comprised of many facets and applications of construction technology. Glaziers cut, install and replace all types of glass related products in commercial and residential window, storefront, skylight, architectural panel and curtain wall systems. They are proficient in the installation of all types of aluminum and glass doors, understand the intricacies of waterproofing and flashing, as well as the ability to perform quality custom shower door and mirror work.</p> <p>The Journeyman Glazier possesses an understanding of math and layout skills, an ability to read shop drawings and blueprints and is trained to feel comfortable with a builder's level, laser level or the use of today's most sophisticated power tools to perform their work. Naturally the Glazier is safely at home in or on most scaffoldings, aerial stages, lifts and platforms. Journeyman status is achieved after completion of a three (3) year- state certified apprenticeship.</p>	
Geographic Region:	Colorado Apprenticeship Rate \$ 0.80

Painters and Drywall Finishers (IUPAT)	
--	--

Local Union #79	
Painters apply paint, stain, varnish, and other finishes to residential, commercial and industrial structures. They are able to choose the right paint or finish for the surface to be covered by taking into account durability, ease of handling, method of application and customer desires.	
Drywall finishers (or tapers) prepare unfinished interior drywall panels for painting by taping and finishing joints and imperfections.	
Geographic Region: Colorado	Apprenticeship Rate \$ 0.30

Operative Plasterers and Cement Masons International Association	
Local Union #577	
Concrete: The following are but a few examples of the wide range of job descriptions for concrete and concrete finishers who place and finish, including all types of repairing of this solid rock material. Concrete tradespeople work on commercial residential and heavy & highway construction, curb and gutter, decorative concrete, concrete flatwork, epoxy coatings, waterproofing, grouting and shotcrete, including but not limited to the setting of concrete forms.	
Plasterer: The following are examples of the various plaster products and the skill sets of OPCMIA members that utilized in the walls and ceiling industry today: exterior insulation finish systems (EIFS), fireproofing, free form & theme plastering, historical restoration, interior gypsum plaster, motion picture & special effects, Portland cement plaster (Stucco), specialty & colored finishes.	
Geographic Region: Colorado	Apprenticeship Rate \$ 0.60

International Brotherhood of Electrical Workers (IBEW)	
Local Union #111	
IBEW-Grand Junction Electrical Apprenticeship	
Outside Linemen: Electrical linemen build and maintain power lines. They work on high-voltage transmission lines, substations, distribution lines.	
Inside Wiremen: Inside Wiremen install conduit, electrical wiring, fixtures, and electrical equipment inside commercial buildings and in industrial settings, digging, climb ladders and work in cold and hot environments.	
Telecommunications Installer-Technicians, also known as VDV and equipment for telephones, computer networks, video distribution systems, security and access control systems, and other low voltage systems in residential, commercial and industrial settings.	
Geographic Region: Zone 1	Apprenticeship Rate \$ 0.84
Geographic Region: Zone 2	Apprenticeship Rate \$ 0.84
Geographic Region: Zone 3	Apprenticeship Rate \$ 0.84

International Brotherhood of Electrical Workers (IBEW)	
Local Union #68	
Geographic Region:	Commercial Apprenticeship Rate \$ 0.63
	Residential Apprenticeship Rates \$ 0.17

International Brotherhood of Electrical Workers (IBEW)	
Local Union #12	
<i>description here</i>	
Geographic Region:	Commercial Apprenticeship Rate \$ 0.60
	Residential Apprenticeship Rate \$ 0.23

International Brotherhood of Electrical Workers (IBEW)	
Local Union #113	
IBEW-Colorado Springs Joint Electrical Apprenticeship	
Outside Linemen: Electrical linemen build and maintain power lines. They work on high-voltage transmission lines, substations, distribution lines.	
Inside Wiremen: Inside Wiremen install conduit, electrical wiring, fixtures, and electrical equipment inside commercial buildings and in industrial settings, digging, climb ladders and work in cold and hot environments.	
Telecommunications Installer-Technicians, also known as VDV and equipment for telephones, computer networks, video distribution systems, security and access control systems, and other low voltage systems in residential, commercial and industrial settings.	
Geographic Region: El Paso County	Apprenticeship Rate \$ 0.75

International Union of Elevator Constructors	
Local #25	
Apprentices are responsible for assisting in the installation, maintenance and repair of the passenger and freight elevators, escalators, dumbwaiters and moving sidewalks under the direction of a Mechanic. This description is intended to describe the general content, identify the essential functions, and set forth the requirements for performance of this job. Other duties may be assigned and this is not to be construed as an exhaustive statement of duties, responsibilities, or requirements.	
Geographic Region: Colorado	Apprenticeship Rate \$ 0.70

International Association of Heat and Frost Insulators and Allied Workers

Local Union #28

Today's insulator is trained and skilled at a multitude of construction trades including but not limited to mechanical insulation, fire stopping, asbestos and lead mitigation or abatement, sound attenuation and specialty fabrications required in custom mechanical insulation installations. In addition, union insulators and contractors utilize best practices for green installation and are most qualified for LEED certified projects. Below is a listing of each trade areas and descriptions of the type of work and application:

Geographic Region: Colorado Apprenticeship Rate \$ 0.50

International Association of Bridge, Structural, Ornamental, and Reinforcing Iron Workers

Local Union #24

Structural: Unload, erect, and connect fabricated iron beams to form the project skeleton.
 Reinforcing: Fabricate and place steel bars (rebar) in concrete forms to reinforce structures.
 Ornamental: Install metal windows into buildings a building's masonry or wooden openings.
 Rigging and Machinery Moving: Load, unload, move and set machinery, structural steel and curtain walls.

Welding and Burning: Welding and burning equipment are considered tools of the trade and performed by structural, reinforcing, ornamental and rigging ironworkers to secure their work to the structure. Ironworkers can be tested to be designated a certified welder.

Industrial	Apprenticeship Rate	\$1.84
Commercial	Apprenticeship Rate	\$0.48

Geographic Region: Colorado Apprenticeship Rate \$ 0.50

Laborers' International Union of North America (LIUNA)

Local Union #720

Environmental Remediation: Asbestos abatement, air sampling and monitoring, work area preparation
 Concrete Installation: Site preparation, forming, finishing, curing, repair, sawing, coring, and decorative installation
 Bridge Work: Bridge construction, renovation, demolition, rigging, signaling
 Building Work: Scaffold building, tube and clamp scaffold, systems scaffold, building frame scaffold
 Highway and Roadwork: Asphalt patching and repair, asphalt placing and paving, electronic grade and slope control
 Landscaping Work: Installation and maintenance of plants and irrigation systems
 Pipeline Work: Front end pipeline work, ground surface pipe handling and welding, pipe handling in the trench

Weatherization Work: Weatherization technician, installer, sealing the building envelope, sealing duct work, energy auditing, lead renovation, lead dust containment
 Renewable Energy Work: Concrete work, digging footers, laying underground utilities
 Tunnel Work: Crane safety, tunnel-boring, concrete work

Geographic Region: Colorado Apprenticeship Rate \$ 0.68

International Union of Operating Engineers

Local Union #9

We operate the bulldozers, the motor graders, the backhoes, the cranes helping to form and shape the infrastructure and skylines. We work the mines and dig wells.

Geographic Region: Colorado Apprenticeship Rate \$ 1.00

Pipefitters (United Association-UA)

Local Union #208

Geographic Region: Denver & Northern Colorado

description here

Commercial	Apprenticeship Rate	\$ 0.78
Industrial	Apprenticeship Rate	\$ 0.78
Service	Apprenticeship Rate	\$ 0.80

Plumbers & Pipefitters

Local #58

description here

Geographic Region: Southern Colorado Apprenticeship Rate \$ 1.60

Western Colorado Plumbers and Pipefitters

Local Union #145

The steamfitter-pipefitter is a trades person with the knowledge and ability to layout, fabricate, assemble, install, maintain, and repair piping systems that transport all types of fluids, slurries and gas in the residential, commercial and industrial sectors. They are the only trade to specialize in planning, design, and installation of low- and high-pressure steam systems. Their work is diverse and in fields such as oil refineries, paper mills, nuclear power plants, manufacturing plants, and in the automotive industry. The systems that the steamfitter-pipefitter may work on are some of the highest pressure and temperature applications and require a thorough knowledge of scientific principles to complete this work safely. The Pipefitter trade also includes all HVAC/R service work, including, heating and cooling and refrigeration equipment found in commercial or industrial properties.

The plumber installs, repairs, maintains, and services piping and plumbing systems and equipment used for drinking (potable) water distribution, sanitary storm water systems, and waste disposal. They also work on technical installations for Medical Gas, Hydronic in-floor heating, Solar Panels, Heat Pumps, Cross-Connection Control and many other systems necessary for the health and safety of the general public. Their work is found mostly in the new home building and renovation, high rises, and commercial construction sectors including hospitals schools and other institutional buildings.

Industrial	<u>Apprenticeship Rate</u>	\$0.50
Commercial	<u>Apprenticeship Rate</u>	\$0.80
Geographic Region:	Western Colorado	

Plumbers (UA)

Local Union #3

Geographic Region: Denver and Northern Colorado

Commercial	Apprenticeship Rate	\$ 0.85
Industrial	Apprenticeship Rate	\$ 0.85
Pipe tradesman	Apprenticeship Rate	\$ 0.85
Utility	Apprenticeship Rate	\$ 0.85

United Union of Roofers, Water Proofer, and Allied Workers

Local Union 58

Roofing in the commercial and industrial sector is generally of the built-up type or the single-ply category. Another area of roofing is the residential type. Although these applications can also be done in the commercial and industrial sector as well. They include composition shingles, slate, tile and metal roofs. Waterproofing is a protecting a building against moisture intrusion. Waterproofing can be below grade. It can also be done on plaza decks, parking garage floors and other sections of a building where water or moisture protection is crucial.

Geographic Region:	Colorado	Apprenticeship Rate
--------------------	----------	---------------------

Sheet Metal Workers International Association

Local Union #9

Denver Sheet Metal Workers JATC
 Colorado Springs Sheet Metal Workers JATC
 Grand Junction Sheet Metal Workers JATC

Sheet Metal Workers take ordinary types of flat metal and make them into specialized products for various duct and ventilation systems, as well as architectural and specialized metal fabrication

	<u>1st year Apprenticeship Rate</u>	\$1.02
	<u>2nd year Apprenticeship Rate</u>	\$1.21
	<u>3rd year Apprenticeship Rate</u>	\$1.30
	<u>4th year Apprenticeship Rate</u>	\$1.49
Geographic Region:	Colorado	Journeyman Apprenticeship Rate \$1.86

Southwest Regional Council of Carpenters

Local Union #555

Heavy and Highway work

Geographic Region:	Colorado	Apprenticeship Rate \$ 0.43
--------------------	----------	-----------------------------

Southwest Regional Council of Carpenters

Local Union #555

Statewide Building Construction

Geographic Region:	Colorado	Apprenticeship Rate \$ 0.55
--------------------	----------	-----------------------------

Southwest Regional Council of Carpenters

Local Union #555

Independent Drywall, Ceiling and Interior Systems and Millwright

Geographic Region:	Colorado	Apprenticeship Rate \$ 0.50
--------------------	----------	-----------------------------

Sprinkler fitters (UA)

Local Union #669

A Sprinkler fitter installs fire sprinkler piping systems in the commercial, residential and industrial sectors. With proficient knowledge of fire codes and responsibility for safety applications this tradesperson installs and maintains pressurized piping equipment and devices to supply fire protection and extinguishing systems with water, foam, carbon dioxide and other materials in places such as hospitals, homes and manufacturing plants – just to name a few.

Geographic Region: Colorado Apprenticeship Rate \$ 0.52

Cell: C20

Note: =====

ID#AAAAORIpFeY

OSA (2021-08-24 21:58:05)

Covering Northern Colorado Counties of Adams, Arapahoe, Boulder, Broomfield, Clear Creek, Denver, Douglas, Eagle Garfield, Gilpin, Grand, Jackson, Jefferson, Larimer, Logan, Moffat, Morgan, Phillips, Pitkin, Rio Blanco, Routt, Sedgewick, Summit, Washington, Weld and Yuma counties

Cell: C21

Note: =====

ID#AAAAORIpFec

OSA (2021-08-24 21:58:05)

Covering Southern Colorado Counties of Alamosa, Archuleta, Baca, Bent, Chaffee, Cheyenne, Conejos, Costilla, Crowley, Custer, Delta, Dolores, El Paso, Elbert, Fremont, Gunnison, Hinsdale, Huerfano, Kiowa, Kit Carson, La Plata, Lake, Las Animas, Lincoln, Mesa, Mineral, Montezuma, Montrose, Otero, Ouray, Park, Prowers, Pueblo, Rio Grande, Saguache, San Juan, San Miguel and Teller counties

Cell: D52

Note: =====

ID#AAAAMmZWrW8

OSA (2021-07-07 23:47:53)

Mesa, Delta, Montrose, Rio Blanco, Routt, Moffat, Garfield, Hinsdale Dolores, Gunnison, Montezuma, and La Plata Counties

Cell: D53

Note: =====

ID#AAAAMmZWrWs

OSA (2021-07-07 23:47:53)

Pitkin, San Miguel, San Juan, Ouray Counties

Cell: D54

Note: =====

ID#AAAAMmZWrWw

OSA (2021-07-07 23:47:53)

Mesa, Delta, Montrose, Garfield, Rio Blanco Counties

Cell: D59

Note: =====

ID#AAAAORIpFeU

OSA (2021-08-24 21:58:05)

Adams; Arapahoe; Boulder; Broomfield; Clear Creak; Denver; Douglas; Eagle; Gilpin; Grand; Jackson; Jefferson; Lake; Larimer; Logan; Morgan; Phillips; Sedgewick; Summit; Washington; Weld and Yuma Counties

Cell: D64

Note: =====

ID#AAAAORIpFeg

OSA (2021-08-24 21:58:05)

Adams; Arapahoe; Boulder; Broomfield; Clear Creak; Denver; Douglas; Eagle; Gilpin; Grand; Jackson; Jefferson; Lake; Larimer; Logan; Morgan; Phillips; Sedgewick; Summit; Washington; Weld and Yuma Counties

Cell: D133

Note: =====

ID#AAAAORIpFeQ

OSA (2021-08-24 21:58:05)

Western Colorado, commencing at the Colorado New Mexico state lines, including the following counties: Archuleta, Hinsdale, Gunnison, Pitkin, and that portion of the Eagle County west of the line to and including the town of Edwards and northerly to the southwest corner of Routt County, Routt, Moffat, Rio Blanco, Garfield, Mesa, Delta, Montrose, Ouray, San Miguel, San Juan, Montezuma, La Plata and Dolores Counties

00 31 26 - EXISTING HAZARDOUS MATERIAL INFORMATION

1.1 EXISTING HAZARDOUS MATERIAL INFORMATION

- A. This Document with its referenced attachments is part of the Procurement and Contracting Requirements for Project. They provide Owner's information for Bidders' / Contractor's convenience and are intended to supplement rather than serve in lieu of Bidders' / Contractor's own investigations. They are made available for Bidders' / Contractor's convenience and information, but are not a warranty of existing conditions. This Document and its attachments are not part of the Contract Documents.

- B. An existing asbestos report for Project, prepared by Anderson Property Inspections, dated February 7, 2023, is available for viewing as appended to this Document.

END OF 00 31 26

Renovation Specific Bulk Asbestos Survey Report

Property Information:

**University of Colorado in Colorado Springs
Columbine Hall**

Inspection Conducted By:

**Ted Anderson Colorado Cert #14835
Rick Sinchak Colorado Cert #1278**

Asbestos Consulting Firm #ACF-15258

Report Prepared By:

**Anderson Property Inspections
Colorado Springs, CO**

Bulk Sample Analysis Performed by:

**CEI Labs Inc.
NVLAP lab code 101768**

Table of Contents

1.0 METHODOLOGY.....3

2.0 SCOPE OF WORK.....6

3.0 MATERIAL CLASSIFICATION7

4.0 CONCLUSIONS AND RECOMMENDATIONS.....9

5.0 PHOTOS.....10

6.0 SAMPLE LOCATION DIAGRAM.....11

LABORATORY RESULTSAPPENDIX A

1.0 METHODOLOGY

Anderson Property Inspections has conducted an asbestos survey for the presence of Asbestos Containing Materials (ACM) at the following address:

Site: University of Colorado in Colorado Springs
Columbine Hall

The Asbestos Consulting Firm and Inspectors Responsible for this project were:

Asbestos Consulting Firm #ACF-15258

Theodore Anderson Asbestos Inspector Colorado Cert #14835 Expires: 2/08/23



Rick Sinchak Asbestos Inspector Colorado Cert #1278 Expires: 5/4/23



*Copies of certifications are available upon request

Site Visit(s)/Sampling dates: 1/27/23 Survey and Bulk Sampling
Report Date: 2/7/23

Field Procedures and Analysis

-Guidelines used for the inspection were established by the Environmental Protection Agency (EPA) in order to comply with the Air Quality Control Commission Regulation No. 8, Part B "Emission Standards for Asbestos."

-Field Information was organized as per the AHERA (Asbestos Hazard Emergency Response Act) concept of homogeneous area. A homogeneous area is defined as a suspect material of similar age, appearance, function and texture. If damage is extensive enough that homogeneous areas cannot be defined, samples will be randomly obtained per functional space.

-Homogeneous areas will be organized in the report in alphabetical order in the material classification section. This letter assignment will also serve as the individual sample set designations for ease of report interpretation of the homogeneous materials. A description of the nature of the homogeneous material, it's physical characteristics and the areas it is present will be in the associated table based on the asbestos content determined by the lab analysis in the material classification section. The specific sample locations for these homogeneous sample sets are recorded on the sketch or occasionally photographs for smaller demolition projects. IV.C.1.d.(vi).(B), IV.C.1.d.(iii)

- On the rare occasion we receive varied results within a specific sample set of homogeneous materials, we may break those previously homogeneous sets apart in an attempt to rule materials in or out of the asbestos containing material declaration. In this situation these materials will be broken

out into a separate section with concise explanation of the revised homogeneous area designations and sample locations.

-EPA classifies materials as friable or non-friable forms of ACM. Friable materials, are defined by their ability to be crumbled or reduced to powder by hand pressure when dry, and in contrast non-friable materials are not able to be reduced to powder by hand pressure. As logic dictates, friable asbestos containing materials have a much higher probability of releasing asbestos containing particulate dust into the air especially when disturbed during renovation and/or demolition activities

-Friability will be assessed onsite via touch on all suspect materials via touch and will be reported in the material classification section if they are found to be asbestos containing. Friability declaration is not pertinent for materials which have been confirmed non-asbestos containing or non-suspect.

IV.C.1.d.(ii)

-The EPA breaks non-friable materials into two categories, Category I non-friable and Category II non-friable materials. Category I non-friable materials are those that have been designated to be in good condition and may remain in place during building renovation or demolition provided these materials are not rendered friable during the proposed activities. Category II non-friable materials are not designated to be in good condition upon inspection, and are required to be removed prior to non-asbestos related building renovation or demolition if there is not a low probability that these materials will remain non-friable during renovation or demolition activities

-Physical assessment of ACM will evaluate beyond friability the physical damage and potential for damage which will be categorized in the material classification section. This is generally only salient information for materials which will remain in the structure and are not slated for demolition.

-Potential for damage will be evaluated by examining frequency of contact influence of vibration and potential for air erosion. The highest value on the scales of low, moderate to high on any of these measures will be the determinant factor in this rating (see table in material classification section).

-Unless otherwise noted samples were obtained during the inspection date noted above. Multiple inspection dates can be cross referenced with the COC in the lab results section if specific sampling date data is needed. IV.C.1.d.(vi).(B)

-Inspection & sampling will generally begin from the exterior to the interior and from the top down of the demolition area or specific structure.

-Sampling is randomized based on the area of demolition using a simple grid system and utilizing a random number generator.

-Sampling frequency is compliant with the AHERA rules for frequency and is dependent on friability and classification of the suspect material, friable surfacing materials (less than 1000sqft (3 samples) between 1000-5000sqft (5 samples) and more than 5000sqft (7-9 samples), thermal system insulations at minimum three per homogeneous area although inspector may choose to take more at their discretion and miscellaneous materials have a minimum of 1 sample required, however when over 500sqft of a miscellaneous material is present additional sampling may be employed again at the discretion of the inspector

-A.P.I. adheres to the AHERA recommended guidelines for sampling frequency of homogeneous materials. However, we reserve the right to conduct additional sampling procedures after the initial bulk sampling lab results are received if warranted.

-The inspector will clean equipment between each material sample collected to reduce the probability of any cross contamination between samples

-Bulk samples which are collected are placed in air tight containers and labeled with the appropriate set designation

-Bulk samples of suspect ACM (Asbestos Containing Material) were analyzed by Polarized Light Microscopy (PLM) with dispersion staining, as described in 40 CFR Part 763 and the National Emissions Standard for Hazardous Air Pollutants (NESHAP). CEI Labs Inc. was responsible for the analysis of all bulk samples. CEI Labs Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), LabCode # 101768-0

-All materials sampled have been slated for demolition. Consequently invasive techniques may have been utilized to obtain or clear areas of suspect ACM.

- Material quantities are approximate as exact amount of demolition may vary depending on a number of factors i.e. success of dry-out, extent of smoke damage for specific demolition or restoration projects. For these types of environments we recommend the contractor verify exact material amounts due to potential change in scope.

-Any materials not tested, but mentioned in this report are non-suspect materials (wood, metal, plastic, rubber, glass or quarry tile)

- Please be advised neither the EPA or Colorado Dept. of Health and Environment have not established specific regulations regarding inspections related to inspecting or sampling processes in restoration scenarios. Consequently, A.P.I. makes every effort to comply with the regulations associated with renovation/demolition type environments for limited scope demolition projects.

2.0 SCOPE OF WORK

Survey requested as a result of the planned removal and replacement of the flat roofing elevations on this four story commercial structure originally constructed in 1994. The roof has not been replaced since the original construction date. It is notable this survey does not include materials on top of the two HVAC/Chiller spaces on the two main elevations.

The main tar roofing assembly appears homogeneous and there are a few patched in or top applied sealants that appear to be associated with new penetrations or spot repairs associated with leaking.

No additional suspect materials observed which are slated for removal. This survey was characterized by a close visual inspection of all accessible areas. All materials sampled have been slated for demolition/impact by the onsite facility representative. Suspect materials have been sampled, classified and inventoried below. These suspect systems as well as non-suspect materials which are slated for removal, their corresponding locations and bulk sampling lab results can be found in the following material classification section.

If during the course of demolition or due to a change in scope of affected materials additional suspect building materials not addressed in this survey are slated for disturbance it is recommended additional sampling is conducted or that the suspect building material is assumed asbestos containing and is treated accordingly.

3.0 MATERIAL CLASSIFICATION

ASBESTOS

Confirmed non-asbestos containing materials:

Homogeneous Sample Set	Class	Quantity	Description/ Location
A(1-8)	Misc/ Non-friable	Approx 29850sqft	4" inch thick black tar based roofing material which represents the wear layer present over the multiple spans slated for removal and replacement, this includes the two major elevations as well as the multiple small lower level elevations on the east and west sides of the structures
B(1-8)	Misc/ Friable	Approx 29850sqft	Brown fibrous insulative material present under the tar roofing based roofing system in sample set A
C(1-4)	Misc/ Non-friable	Approx 1650sqft	White/black rolled roofing utilized as patch material around scupper drains and extrusions on the two main elevations
D(1-4) F(1-3)	Misc/ Non-friable	Approx 525sqft	Silver coating over tar sealant associated with parapet wall seams and applied as a leak mitigation material on the two main elevations in small areas (parapet wall material appeared older than the patched areas, which is why it was sampled separately) One sample from each set came back with a Trace amount of Chrysotile reported, this was then gravimetrically point counted to below the EPA and Colorado adopted 1% threshold for declaring a material asbestos containing
E(1-4)	Misc/ Non-detect	Less than 150sqft	Gray sealant applied to rolled roofing patches and roof extrusions (pipe jacks, HVAC boxes and venting)
G(1-4)	Misc/ Non-detect	Less than 125sqft	Light gray pliable sealant applied to the perimeter of the roofing elevations where the roofing material meets the metal trim cap

H(1-2)	Misc/ Non- detecat	12sqft	White sealant applied in patch area on the eastern elevation (above admin section of building) in the south-east corner only
---------------	-----------------------------------	---------------	---

Non-suspect Materials Observed and Slated for demolition:

- 1) Metal trim**

4.0 CONCLUSIONS AND RECOMMENDATIONS:

Only areas of non-asbestos* containing building material were examined during this survey. As a result no additional precautions relating to asbestos type abatement is required for the demolition and removal of the non-detect materials systems examined in this report.

***As noted above the silver coating associated with two small areas of patch work did come back with a Trace amount of Chrysotile which was then point counted to below the 1% threshold for declaring a material asbestos containing.**

A.P.I has made a concerted effort to survey and randomly sample all affected suspect building material associated with this loss. However, in some cases hidden or patched in materials may be present which were not readily observed. If during the course of demolition a new type of suspect material is discovered due to visual obscurity or change in project scope it is recommended additional inspection and sampling is employed or that the discovered suspect material is considered asbestos containing.

5.0 PHOTOS

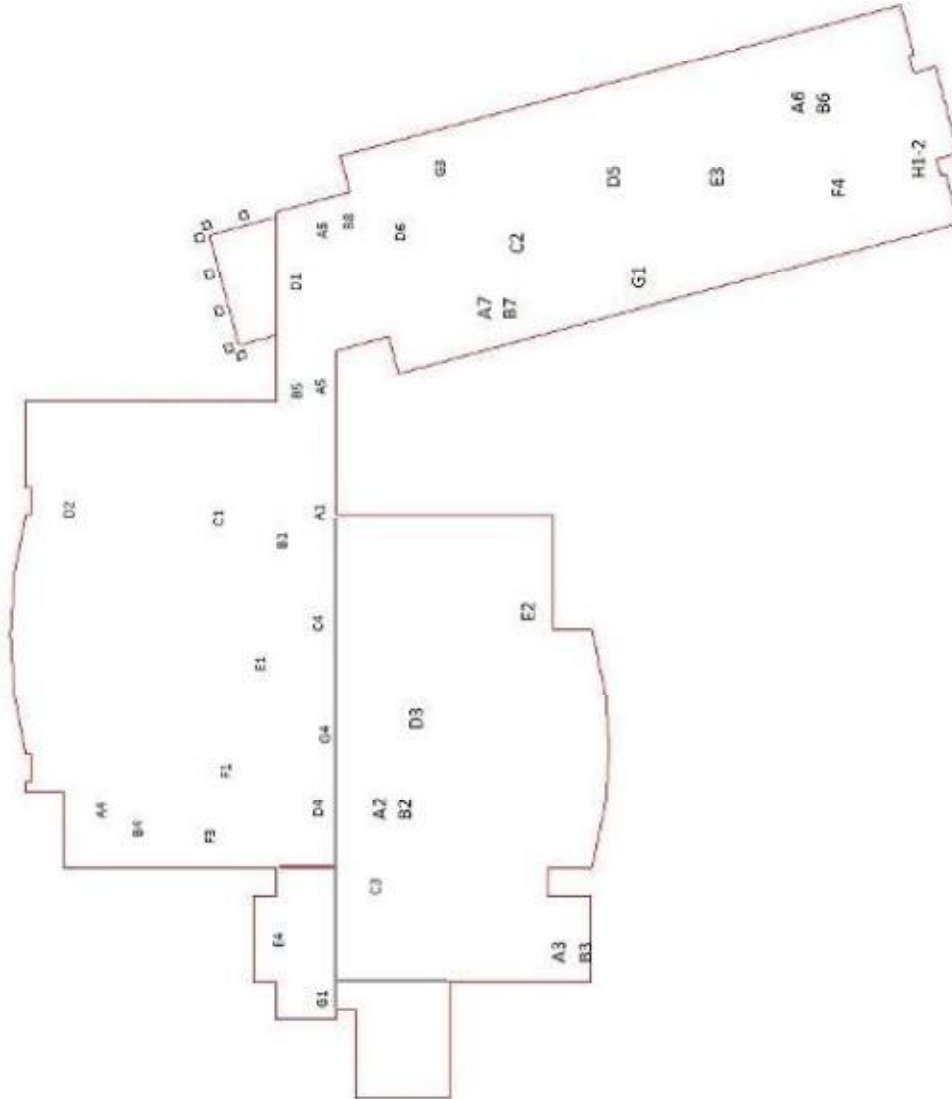


Silver coat on parapet walls that came back with a Trace that was successfully point counted below 1%



Silver coat on seam patches that came back with a Trace that was successfully point counted below 1%

6.0 SAMPLE LOCATION DIAGRAM



APPENDIX A

Bulk Sample Labs



ASBESTOS ANALYTICAL REPORT
By: Polarized Light Microscopy

Prepared for

Anderson Property Inspections

CLIENT PROJECT: Columbine Hall- Roof

LAB CODE: B232284

TEST METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 02/01/23

TOTAL SAMPLES ANALYZED: 39

SAMPLES >1% ASBESTOS:

730 SE Maynard Road • Cary, NC 27511 • 919.481.1413

PROJECT: Columbine Hall- Roof

LAB CODE: B232284

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
A1	Layer 1	B232284.01	Black	Roofing	None Detected
	Layer 2	B232284.01	Brown	Roofing	None Detected
A2		B232284.02	Black	Roofing	None Detected
A3		B232284.03	Black	Roofing	None Detected
A4		B232284.04	Black	Roofing	None Detected
A5		B232284.05	Black	Roofing	None Detected
A6		B232284.06	Black	Roofing	None Detected
A7	Layer 1	B232284.07	Black	Roofing	None Detected
	Layer 2	B232284.07	Brown	Roofing	None Detected
A8		B232284.08	Black	Roofing	None Detected
B1		B232284.09	Brown	Underlayment	None Detected
B2		B232284.10	Brown	Underlayment	None Detected
B3		B232284.11	Brown	Underlayment	None Detected
B4	Layer 1	B232284.12	Brown	Underlayment	None Detected
	Layer 2	B232284.12	Yellow	Underlayment	None Detected
B5		B232284.13	Brown	Underlayment	None Detected
B6		B232284.14	Brown	Underlayment	None Detected
B7		B232284.15	Brown	Underlayment	None Detected
B8		B232284.16	Brown	Underlayment	None Detected
C1		B232284.17	White,Black	Rolled Roofing	None Detected
C2		B232284.18	White,Black	Rolled Roofing	None Detected
C3		B232284.19	White,Black	Rolled Roofing	None Detected
C4		B232284.20	White,Black	Rolled Roofing	None Detected
D1	Layer 1	B232284.21	Silver	Silver Coat	None Detected
	Layer 2	B232284.21	Black	Tar	None Detected
D2	Layer 1	B232284.22	Silver	Silver Coat	None Detected
	Layer 2	B232284.22	Black	Tar	None Detected
D3	Layer 1	B232284.23	Silver	Silver Coat	None Detected
	Layer 2	B232284.23	Black	Tar	None Detected
D4	Layer 1	B232284.24	Silver	Silver Coat	Chrysotile <1%
	Layer 2	B232284.24	Black	Tar	None Detected

PROJECT: Columbine Hall- Roof

LAB CODE: B232284

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
D5	Layer 1	B232284.25	Silver	Silver Coat	None Detected
	Layer 2	B232284.25	Black	Tar	None Detected
D6	Layer 1	B232284.26	Silver	Silver Coat	None Detected
	Layer 2	B232284.26	Black	Tar	None Detected
E1		B232284.27	Gray	Tar Sealant	None Detected
E2		B232284.28	Gray	Tar Sealant	None Detected
E3		B232284.29	Gray	Tar Sealant	None Detected
E4		B232284.30	Gray	Tar Sealant	None Detected
F1	Layer 1	B232284.31	Silver	Silver Coat	Chrysotile <1%
	Layer 2	B232284.31	Black	Tar	None Detected
F2		B232284.32	Silver	Silver Coat	None Detected
F3	Layer 1	B232284.33	Silver	Silver Coat	None Detected
	Layer 2	B232284.33	Black	Tar	None Detected
G1		B232284.34	Gray	Sealant	None Detected
G2		B232284.35	Gray	Sealant	None Detected
G3		B232284.36	Gray	Sealant	None Detected
G4		B232284.37	Gray	Sealant	None Detected
H1		B232284.38	White	Sealant	None Detected
H2		B232284.39	White	Sealant	None Detected

B232284

39



730 SE Maynard Rd., Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

CEI

ASBESTOS CHAIN OF CUSTODY

LAB USE ONLY:
CEI Lab Code:
CEI Lab I.D. Range:

COMPANY INFORMATION	PROJECT INFORMATION
CEI CLIENT #:	Job Contact:
Company: Anderson Property Inspections	Email / Tel:
Address: 115 Del Oro Circle	Project Name: <i>Columbine Hall Roof</i>
Colorado Springs, CO 80919	PO #:
Email: coloradospringsinspectors@gmail.com	STATE SAMPLES COLLECTED IN: Colorado
Tel: 719-640-8489 Fax:	

GENERAL INSTRUCTIONS			
POSITIVE STOP ANALYSIS	NO	PLM DUE DATE:	

ASBESTOS	METHOD	TURN AROUND TIME					
		4 HR	8 HR	24 HR	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (400)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SAMPLE ID#	DESCRIPTION / LOCATION	TEST
A1	<i>Roofing</i>	PLM
A2	<i>Roofing</i>	PLM
A3	<i>Roofing</i>	PLM
A4	<i>Roofing</i>	PLM
A5	<i>Roofing</i>	PLM
A6	<i>Roofing</i>	PLM
A7	<i>Roofing</i>	PLM
A8	<i>Roofing</i>	PLM
B1	<i>Underlayment</i>	PLM
B2	<i>Underlayment</i>	PLM
B3	<i>Underlayment</i>	PLM
B4	<i>Underlayment</i>	PLM
B5	<i>Underlayment</i>	PLM
B6	<i>Underlayment</i>	PLM
B7	<i>Underlayment</i>	PLM
B8	<i>Underlayment</i>	PLM

REMARKS:		<input checked="" type="checkbox"/> Accept Samples	
		<input type="checkbox"/> Reject Samples	
Released By:	Date/Time	Received By:	Date/Time
<i>[Signature]</i>	<i>11/28/23 1:15p</i>	<i>fw</i>	<i>1-30-23 9:20</i>

Samples will be disposed of 30 days after analysis

VERSION CCDC.0214.1/1.LD
Customer COC Page 1

3939 5783 7708



CEI

ASBESTOS SAMPLING FORM

COMPANY CONTACT INFORMATION	
Company: <i>ACS</i>	Job Contact:
Project Name: <i>Columbine Hall Roof</i>	
Project ID #:	Tel:

20

29

SAMPLE ID#	DESCRIPTION / LOCATION	TEST
C1	<i>Rolled roofing</i>	PLM <input type="checkbox"/>
C2	<i>s</i>	PLM <input type="checkbox"/>
C3	<i>s</i>	PLM <input type="checkbox"/>
C4	<i>s</i>	PLM <input type="checkbox"/>
D1	<i>Silver coat +tar</i>	PLM <input type="checkbox"/>
D2	<i>s</i>	PLM <input type="checkbox"/>
D3	<i>s</i>	PLM <input type="checkbox"/>
D4	<i>s</i>	PLM <input type="checkbox"/>
D5	<i>s</i>	PLM <input type="checkbox"/>
D6	<i>s</i>	PLM <input type="checkbox"/>
E1	<i>Tar sealant</i>	PLM <input type="checkbox"/>
E2	<i>s</i>	PLM <input type="checkbox"/>
E3	<i>s</i>	PLM <input type="checkbox"/>
E4	<i>s</i>	PLM <input type="checkbox"/>
F1	<i>Silver coat +tar</i>	PLM <input type="checkbox"/>
F2	<i>s</i>	PLM <input type="checkbox"/>
F3	<i>s</i>	PLM <input type="checkbox"/>
G1	<i>Sealant</i>	PLM <input type="checkbox"/>
G2	<i>s</i>	PLM <input type="checkbox"/>
G3	<i>s</i>	PLM <input type="checkbox"/>
G4	<i>s</i>	PLM <input type="checkbox"/>
H1	<i>Sealant</i>	PLM <input type="checkbox"/>
H2	<i>s</i>	PLM <input type="checkbox"/>
		PLM <input type="checkbox"/>
		PLM <input type="checkbox"/>
		PLM <input type="checkbox"/>
		PLM <input type="checkbox"/>
		PLM <input type="checkbox"/>
		PLM <input type="checkbox"/>
		PLM <input type="checkbox"/>

Point Count Labs



ASBESTOS ANALYTICAL REPORT
By: Polarized Light Microscopy

Prepared for

Anderson Property Inspections

CLIENT PROJECT: Columbine Hall Roof (Gravimetric Point Count)

LAB CODE: B232284A

TEST METHOD: PLM Gravimetric Point Count
EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 02/06/23



ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Anderson Property Inspections
115 Del Oro Circle
Colorado Springs, CO 80919

Lab Code: B232284A
Date Received: 02-02-23
Date Analyzed: 02-06-23
Date Reported: 02-06-23

Project: Columbine Hall Roof (Gravimetric Point Count)

ASBESTOS GRAVIMETRIC POINT COUNT PLM, EPA 600 METHOD

Client ID Lab ID	Material Description	Sample Weight (g)	Organic Material (%)	Acid Soluble Material (%)	Acid Insoluble Material (%)	ASBESTOS %
D4 B232284A1	Silver Coat	0.212	5.2	94	.47	0.0024% Chrysotile
F1 B232284A2	Silver Coat	0.464	3.9	96	.21	0.0028% Chrysotile

SECTION 01 10 00 – SUMMARY OF WORK

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Work covered by the Contract Documents.
 - 2. Examination of Site
 - 3. Contracts and Work covered by the Contract Documents
 - 4. Work Phases
 - 5. Work under other contracts.
 - 6. Use of premises.
 - 7. Owner's occupancy requirements.
 - 8. Specification formats and conventions.
- B. Divisions 0 and 1 of the project manual govern work under all Divisions of the specifications.

1.2 EXAMINATION OF SITE

- A. Attendance at site walk-through is mandatory for all General Contract bidders. Confirmation of attendance shall be a condition of this agreement.

1.3 CONTRACTS

- A. This contract incorporates one project defined as:
 - 1. 2019-106M22 – Replace Roof, Columbine Hall
- B. Single Contract: All work under this project will be executed under a single contract between the Owner and General Contractor. However, the Owner will self-perform or separately contract some work as indicated in these contract documents.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification: 2019-106M22 – Replace Roof, Columbine Hall
- B. Project Location:
 - University of Colorado, Colorado Springs**
1420 Austin Bluffs Parkway, Colorado Springs, CO 80918
- C. Owner: **University of Colorado, Colorado Springs**
 - 1. Owner's Representative: **Don Wright, Project Manager, 1420 Austin Bluffs Pkwy., Colorado Springs, CO 80918**
- D. Architect: **Hall Architects, 1935 Dominion Way, Suite 202, Colorado Springs, CO 80918.**

E. The Work consists of the following:

1. Project consists of demolition of existing SBS MOD CAP roofing and replacing with new TPO membrane roof assembly. Work also includes replacement of roof flashings and associated roofing accessories, as well as a new roof access ladder.
 - a. Base Bid: Replace Roof Areas A, B, D, & F
 - b. Additive Alternate #1: Replace Roof Area E
 - c. Additive Alternate #2: Replace Roof Area C
2. Deferred Submittal: Lightning Protection System
The building has an existing lightning-protection system that will be affected by roof replacement work. Contractor shall engage a qualified lightning protection consultant to field-verify existing conditions, to direct removal & reinstallation of existing lightning protection components to remain, and to design, specify, and install new lightning protection components to bring the building in compliance with current lightning protection standards. Existing lightning protection components shown on roof demolition plans for reference only. The lightning protection system shall conform to the requirements and standards for lightning protection systems of UL and NFPA. Upon completion, the Contractor shall furnish a limited scope LPI master installation certificate.

F. Schedule:

1. It is the intent that the various areas of roof replacement will take place in a sequential order as determined mutually between the contractor and Owner with the following criteria integrated into the overall schedule.
 - a. Anticipated Notice to Proceed Date: **April 24, 2023**
 - b. Substantial Completion Date for entire project: **88 calendar days from Notice to Proceed (July 21, 2023 per Anticipated Notice to Proceed Date)**
 - c. Final Completion Date: **15 calendar days from Substantial Completion (August 5, 2023 per Anticipated Notice to Proceed Date)**

1.5 WORK PHASES

- A. Phasing of roof replacement work shall be conducted to minimize staging, material storage, and labor foot traffic over newly replaced roofing systems.
- B. Suggested phasing only is shown in the construction drawings. Contractor shall submit a phasing and staging plan during the preconstruction meeting confirming general conformance with construction drawings. Contractor may suggest alterations to suggested phasing on construction drawings as considered justified and acceptable to UCCS Project Manager.
- C. Before commencing Work of each phase, submit a schedule showing the sequence, commencement and completion dates, and move-out and -in dates of Owner's personnel for all phases of the Work.

1.6 WORK UNDER OTHER CONTRACTS

- A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract. Coordinate the Work of this Contract with work performed under separate contracts.
- B. Preceding Work: No other contracts for preceding work in area.
- C. Concurrent Work: No concurrent work anticipated.
- D. Future Work: No future work anticipated at this time.

1.7 GENERAL

- A. The work to be done under this Contract shall be performed in a workmanlike manner and to the satisfaction of the Architect as shown, documented and set forth in the Contract Documents.
- B. If these documents or the job conditions make it impossible to produce first class work or to warranty the work or its performance, or should discrepancies appear among the Contract Documents, Contractor shall request interpretation, correction or clarification prior to bidding as set forth in the Bidding Requirements. If the Contractor fails to make such request, the work must be performed in a satisfactory manner and not request for added cost or extension of time will be considered.
- C. Should conflict occur in or between Drawings and Specifications, Contractor (or Installer) is deemed to have estimated on the more expensive way of doing the work unless he/she shall have asked for and obtained written decision before submission of Bid as to which method or materials will be required.
- D. The Contractor represents, by submission of his bid, that he/she fully understands the nature and extent of the work, all factors and conditions affecting or which may be affected by it and characteristics of its various parts and elements and their fitting together and functioning.

1.8 USE OF PREMISES

- A. General: Contractor shall have limited use of premises for construction operations as indicated on Drawings. Contractor's use of premises is limited by Owner's right to maintain building/site occupancy and its right to perform work or to retain other contractors on portions of Project. Contractor shall coordinate and confirm scheduling dates with Owner's schedule.
- B. Use of Site: Limit use of premises to work in areas indicated or as specifically approved by the Owner's project manager. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 - 1. Limits: Confine construction operations to areas to be renovated under this contract only.
 - a. Limit site disturbance, including earthwork and clearing of vegetation, to 40 feet beyond building perimeter; 5 feet beyond primary roadway curbs, walkways, and main utility branch trenches; and 25 feet beyond pervious paving areas.
 - b. Contractor is responsible for repairing any site disturbance and landscape in areas affected by construction to its original condition, including staging areas and areas traversed by Contractor's forces.

2. Owner Occupancy: Allow for Owner occupancy of Project site.
 3. Driveways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
 4. Limit construction operations to those methods and procedures which will not adversely and unduly affect the working environment of the Owner's occupied spaces, including noise, dust, odors, air pollution, ambient discomfort, poor lighting, hazards and other undesirable effects and conditions.
 5. Disruptive operations: Noisy and other disruptive operations (such as use of jack hammers or other noisy equipment, or the application of odorous materials such as adhesives or asphalt) shall not be allowed in close proximity to existing buildings or mechanical ventilation intakes without specific notification to Owner, and Owner's strict approval.
 - a. Schedule and coordinate such operations with Owner.
 - b. Upon notification from Owner, cease operations which are, in the opinion of the Owner, disruptive to operations. Schedule such operations as described above.
 - c. All disruptive activities should be specifically indicated and distributed on the Contractor's weekly schedules.
 6. Power Outages: Do not interrupt power, lighting, plumbing, telephone and HVAC services to occupied areas. Coordinate and schedule any required utility outages with the Owner at least three (3) days in advance of the outage; have Owner's approval.
 7. The awarded contractor will comply the requirements of the Erosion and Stormwater Quality Control Plan and acknowledge the responsibility to determine whether the construction activities on these plans require Colorado Discharge Permit System (CDPS) permitting for stormwater discharges associated with construction activity and to comply with the City of Colorado Springs WQM (DCM, Volume 2).
- C. Use of Existing Building: Maintain existing building in a weathertight condition throughout construction period. Repair damage caused by construction operations or as a result of not maintaining the building in a weathertight condition. Protect building and its occupants during construction period.
1. Roof Access: Contractor shall assume for bidding purposes that all access to the roof shall be by means of temporary exterior ladder or scaffolding access provided and installed by the Contractor in locations approved by the Owner. Contractor shall not be permitted to use existing building elevators and stairwells, unless specifically approved in advance by the Owner.

1.9 OWNER'S OCCUPANCY REQUIREMENTS

- A. Partial Owner Occupancy: Owner will occupy the premises during entire construction period, with the exception of roof areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations. Maintain existing exits and accessible routes, unless otherwise indicated or specifically approved by the Owner's project manager.

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
- B. Owner Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed areas of building, before Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total Work.
 1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied before Owner occupancy.
 2. Obtain a Certificate of Occupancy/Notice of Code Compliance from authorities having jurisdiction before Owner occupancy.
 3. Before partial Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of building.
 4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of building.

1.10 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the CSI/CSC's "MasterFormat" 2004 numbering system.
 1. Division 1: Sections in Division 1 govern the execution of the Work of all Sections in the Specifications.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
 - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 10 00

SECTION 01 23 00 - ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Forms for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A Schedule of Alternates for the Project is included at the end of this Section. Specification Sections and drawings contain requirements for work and materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Alternate #1: Replace Roof Area E
- B. Alternate #2: Replace Roof Area C

END OF SECTION 01 23 00

SECTION 01 26 00 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. The General Conditions of the Contract and the Supplementary General Conditions provide the primary requirements for contract modification procedures.
- B. This Section augments administrative and procedural requirements for handling and processing Contract modifications. Where conflicts between this Section and the General Conditions of the Contract and/or the Supplementary General Conditions, the General Conditions of the Contract and/or the Supplementary General Conditions shall take precedence.
- C. See Division 1 Section "Product Requirements" for product substitution procedures.

1.2 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on Architect's Supplemental Instructions form.

1.3 CHANGE ORDER PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests or Change Order Bulletins issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 - 2. Within **ten (10) days** after receipt of Proposal Request or Change Order Bulletins, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Include costs of labor and supervision directly attributable to the change.
 5. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 6. Comply with requirements in Division 1 if the proposed change requires substitution of one product or system for product or system specified.
- C. Proposal Request Form: Use **State Form SC-6.312 "Change Order Proposal"** and an **approved form of back-up documentation materials** for all Change Order Proposal Requests.

1.4 ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, base each Change Order proposal on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
1. Include installation costs in purchase amount only where indicated as part of the allowance.
 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the Purchase Order amount or Contractor's handling, labor, installation, overhead, and profit. Submit claims within **ten (10)** days of receipt of the Change Order or Construction Change Directive authorizing work to proceed. Owner may reject claims submitted later than **ten (10)** days after such authorization.

1.5 EMERGENCY CHANGE ORDERS

- A. Emergency Change Orders: Architect may issue an Emergency Change Order as described in the General Conditions of the Contract. Emergency Change Orders instruct the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Emergency Change Order.
1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

1.6 CHANGE ORDER PROCEDURES

University of Colorado, Colorado Springs
Replace Roof, Columbine Hall
Bid Documents

- A. Upon Owner's approval of a Change Order Proposal Request, Architect will issue a Change Order (State Form SC-6.31) for signatures of Owner and Contractor on Owner provided form. Example included in Division 0.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 26 00

SECTION 01 29 00 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. The General Conditions of the Contract and the Supplementary General Conditions provide the primary requirements for payment procedures.
- B. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.2 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including **Submittals Schedule and Application for Payment forms with Continuation Sheets**.
 - 2. Submit the Schedule of Values to Architect at earliest possible date but no later than **ten (10)** days before the date scheduled for submittal of initial Applications for Payment.
 - 3. Subschedules: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values correlated with each phase of payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.
 - 1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 - 2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of Manufacturer, fabricator or supplier
 - e. Dollar value.
 - f. Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 - 3. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 - 4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project

Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.

- a. **It is the intent of this breakdown to allow evaluation of the progress associated with each of the major Roof Sections, and accessory structures identified on the drawings and supplemental documents. Within each Roof Section Breakdown, include the further breakdown of the labor and materials associated specifically with the work within that area of the project.**
 - b. General Conditions and Overhead costs do not need to be divided into the separate Roof Sections of work (see paragraph 5 below).
5. General Conditions (including supervision), mobilization costs, costs of bonds and insurance, and Contractor's Fee should be assigned as separate line items. The General Contractor may divide such overhead costs into further line items at their discretion.
 6. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed. [Note: All requests for payment for materials stored off-site shall be subject to documentation and insurance as may be requested by Owner or Architect per General Conditions Article 31.]
 7. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
 8. Allowances: Provide a separate line item in the Schedule of Values for each allowance.
 9. Each item in the Schedule of Values and Applications for Payment shall be complete.
 10. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders result in a change in the Contract Sum.

1.3 APPLICATIONS FOR PAYMENT

- A. Each Project will require separate payment applications and associated paperwork.
- B. Each Application for Payment shall be consistent with Articles 31, 32 and 33 of the General Conditions and previous applications and payments as certified by Architect and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- C. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- D. Payment Application Forms: Use standard **State forms provided by Owner**, as form for Applications for Payment.
- E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
 1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders issued before last day of construction period covered by application. Each Change Order shall be shown as a separate line item on the

Continuation Sheet with supplemental breakdown of items within each Change Order to the degree necessary for the Architect to further evaluate the pay application.

- F. Transmittal of DRAFT: Submit **one (1)** copy of a Draft without signatures to each the Architect and Owner's designated representative, for preliminary approval. Upon notification from the Architect of necessary revisions or if no notification is given after **five (5)** business days, submit certified originals as indicated below.

- G. Transmittal: Submit **four (4)** signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt **within three (3) business days**. One copy shall be complete including back-up attachments, supplemental insurance, waivers of claim and similar attachments if required.
 - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

- H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 - 1. List of subcontractors, principal suppliers and fabricators.
 - 2. Schedule of Values.
 - 3. Contractor's Construction Schedule (preliminary if not final).
 - 4. Schedule of Unit Prices
 - 5. Submittals Schedule (preliminary if not final).
 - 6. List of Contractor's staff assignments.
 - 7. Copies of building, electrical, plumbing or other required permits.
 - 8. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 - 9. Certificates of insurance and insurance policies.
 - 10. Performance and payment bonds.
 - 11. Data needed to acquire Owner's insurance.

- I. Application for Payment at Substantial Completion: After issuance of the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
 - 1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 - 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
 - 3. Submission of occupancy permits and similar approvals shall precede or coincide with this application for payment.

- J. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
 - 1. Evidence of completion of Project closeout requirements.
 - 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 - 3. Advice on shifting insurance coverage.
 - 4. Updated final statement, accounting for final changes to the Contract Sum.
 - 5. Evidence that claims have been settled.
 - 6. Confirmation of completion of all punchlist items and items identified for completion after Final Acceptance.

7. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
8. Final, liquidated damages settlement statement.
9. Transmittal of required Project Construction Records to the Owner.
10. Removal of temporary facilities and services.
11. Removal of surplus materials, rubbish, and similar elements.
12. Change of door locks to Owner's access.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 29 00

SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General Project coordination procedures.
 - 2. Coordination Drawings.
 - 3. Project meetings.
- B. See Division 1 Section "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.

1.2 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
 - 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Contractor's Construction Schedule.
 - 2. Preparation of the Schedule of Values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Delivery and processing of submittals.
 - 5. Progress meetings.

6. Preinstallation conferences.
7. Startup and adjustment of systems.
8. Project closeout activities.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

1. Salvage materials and equipment involved in performance of, but not actually incorporated in, the Work. Refer to other specification sections and Drawings for disposition of salvaged materials that are designated as Owner's property.

1.3 SUBMITTALS

A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.

1. Content: Project-specific information, drawn accurately to scale. Do not base Coordination Drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:
 - a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - b. Indicate dimensions shown on the Contract Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect for resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
2. Sheet Size: At least 8-1/2 by 11 inches but no larger than 30 by 40 inches.
3. Number of Copies: Submit three (3) opaque copies of each submittal. Architect will return two (2) copies.
4. Refer to individual Sections for Coordination Drawing requirements for Work in those Sections.

1.4 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than **seven (7)** days after **Notice to Proceed**. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.

1. Attendees: Authorized representatives of Owner, Architect; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.

- c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for Requests for Interpretations (RFIs).
 - g. Procedures for testing and inspecting.
 - h. Procedures for processing Applications for Payment.
 - i. Distribution of the Contract Documents.
 - j. Submittal procedures.
 - k. Preparation of Record Documents.
 - l. Use of the premises and existing building.
 - m. Work restrictions.
 - n. Owner's occupancy requirements.
 - o. Responsibility for temporary facilities and controls.
 - p. Construction waste management and recycling.
 - q. Parking availability.
 - r. Office, work, and storage areas.
 - s. Equipment deliveries and priorities.
 - t. First aid.
 - u. Security.
 - v. Progress cleaning.
 - w. Working hours.
3. Minutes: Architect will record and distribute the meeting minutes of this Preconstruction Conference.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
 - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. The Contract Documents.
 - b. Options.
 - c. Related Requests for Information (RFIs).
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Review of mockups.
 - i. Possible conflicts.
 - j. Compatibility problems.
 - k. Time schedules.
 - l. Weather limitations.
 - m. Manufacturer's written recommendations.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.
 - q. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.

- v. Coordination with other work.
 - w. Required performance results.
 - x. Protection of adjacent work.
 - y. Protection of construction and personnel.
- 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 - 4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
 - 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress Meetings: Conduct formal progress meetings at weekly intervals. At the Architect's or Owner's discretion, more frequent meetings may be required.
- 1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Status of correction of deficient items.
 - 14) Field observations.
 - 15) Requests for Information (RFIs).
 - 16) Status of proposal requests.
 - 17) Pending changes.
 - 18) Status of Change Orders.
 - 19) Pending claims and disputes.
 - 20) Documentation of information for payment requests.

3. Minutes: Architect will record and distribute the meeting minutes to the Owner, General Contractor, all other attendees, or parties who should have been present and all other necessary entities.
 - a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule within **three (3)** days after each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 31 00

SECTION 01 32 13 – SCHEDULES AND REPORTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Contractor's Construction Schedule.
 - 2. Submittals Schedule.
 - 3. Daily Construction Reports.
 - 4. Field Condition Reports.
- B. See Division 1 Section "Payment Procedures" for submitting the Schedule of Values.
- C. See Division 2 Section "Selective Demolition" for submitting construction photographs.

1.2 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. CPM: Critical Path Method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
- E. Fragnet: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.
- F. Major Area: A story of construction, a separate building, or a similar significant construction element (such as separate Roofing Sections).

1.3 SUBMITTALS

- A. Submittals Schedule: Submit **three (3)** copies of schedule. Arrange the following information in a tabular format:
 - 1. Scheduled date for first submittal.
 - 2. Specification Section number and title.
 - 3. Submittal category (action or informational).
 - 4. Name of subcontractor.
 - 5. Description of the Work covered.
 - 6. Scheduled date for Architect's final release or approval.
- B. Contractor's CPM Construction Schedule: Submit electronically and **three (3)** opaque copies of initial schedule, large enough to show entire schedule for entire construction period.
- C. Contractor's 3-Week Construction Schedules: Submit electronically and with opaque copies to be distributed at every Progress Meeting, large enough to show entire 3-week schedule period.
- D. Daily Construction Reports: Submit electronically and **two (2)** copies if requested by Architect or Owner.
- E. Field Condition Reports: Submit electronically and **two (2)** copies at time of discovery of differing conditions.

1.4 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from parties involved.
 - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

- A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule within **ten (10)** days of the date established for the Notice to Proceed. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
 - 1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
 - 2. Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for **the Notice to Proceed** to date of **Final Completion**.
1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
1. Activity Duration: Define activities so no activity is longer than **seven (7)** days, unless specifically allowed by Architect.
 2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than **twenty (20)** days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 3. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
 4. Startup and Testing Time: Include not less than **fourteen (14)** days for startup and testing.
 5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
1. Phasing: Arrange list of activities on schedule by phase.
 2. Work under More Than One Contract: Include a separate activity for each contract.
 3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
 4. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion.
 - e. Use of premises restrictions.
 - f. Provisions for future construction.
 - g. Seasonal variations.
 - h. Environmental control.
 5. Work Stages: Indicate important stages of construction for each major portion of the Work.
 6. Other Constraints: Be cognizant that tear-off activities and large equipment activities on-site require specific coordination of activities with the Owner, and that protection of areas below roof work must be adequately addressed in the scheduling of activities.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion.

- E. Contractor's Responsibility: Nothing in these requirements shall be deemed to be usurpation of Contractor's authority and responsibility to plan and schedule work as he sees fit, subject to all other requirements of the Contract Documents.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (BAR SCHEDULE / GANTT CHART)

- A. Gantt-Chart Schedule: This type of Bar Chart may be used at the Contractor's discretion for short duration 3 week look-aheads to be used at the regularly scheduled progress meetings.
- B. Use of Bar Charts for short duration planning schedules, shall not relieve contractor from maintaining a full CPM schedule as described below.
- C. Preparation: Indicate each significant construction activity separately. Indicate each element in the schedule of values separately. Identify first workday of each week with a continuous vertical line.
 - 1. For construction activities that require 1 month or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.4 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

- A. General: Prepare network diagrams using AON (activity-on-node) format.
- B. Preliminary Network Diagram: Submit diagram within **7** days of date established for **the Notice to Proceed**. Outline significant construction activities for the first **30** days of construction. Include skeleton diagram for the remainder of the Work.
- C. CPM Schedule: Prepare Contractor's Construction Schedule using a computerized, time-scaled CPM network analysis diagram for the Work.
 - 1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than **14** days after date established for **the Notice to Proceed**.
 - a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of Architect's or Owner's approval of the schedule.
 - 2. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
 - 3. Use "one workday" as the unit of time. Include list of nonworking days and holidays incorporated into the schedule.
- D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the preliminary network diagram, prepare a skeleton network to identify probable critical paths.
 - 1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
 - a. Preparation and processing of submittals.
 - b. Mobilization and demobilization.
 - c. Purchase of materials.
 - d. Delivery.

- e. Fabrication.
 - f. Utility interruptions.
 - g. Installation.
 - h. Work by Owner that may affect or be affected by Contractor's activities.
 - i. Testing and commissioning.
2. Weather Days: Include appropriately estimated quantity of weather delays into each significant phase of the project based upon historical data for the seasonal time of year. These normalized estimated weather days shall be considered float time and are not subject to extra or change order costs. (See General Conditions Article 38).
 3. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
 4. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
 5. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.
 - a. Subnetworks on separate sheets are permissible for activities clearly off the critical path.
- E. Initial Issue of Schedule: Prepare initial network diagram from a list of straight "early start-total float" sort. Identify critical activities. Prepare tabulated reports showing the following:
1. Contractor or subcontractor and the Work or activity.
 2. Description of activity.
 3. Principal events of activity.
 4. Immediate preceding and succeeding activities.
 5. Early and late start dates.
 6. Early and late finish dates.
 7. Activity duration in workdays.
 8. Total float or slack time.
 9. Average size of workforce.

2.5 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
1. List of subcontractors at Project site.
 2. Equipment at Project site.
 3. Material deliveries.
 4. High and low temperatures and general weather conditions.
 5. Accidents.
 6. Stoppages, delays, shortages, and losses.
 7. Meter readings and similar recordings.
 8. Orders and requests of authorities having jurisdiction.
 9. Services connected and disconnected.
 10. Equipment or system tests and startups.
- B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a request for

interpretation. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: **At intervals corresponding with project progress meetings, the contractor shall update the schedule (either the full CPM or a 3 week look-ahead bar chart. At Architect's or Owner's discretion, and when the CPM schedule is more than 10 days out of alignment with current activities, the CPM schedule shall be updated by the Contractor to reflect actual construction progress and activities.**
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made including the issuance of Change Orders. Issue updated schedule concurrently with the report of each such meeting.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the Work progresses, indicate Actual Completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and temporary field offices.
 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 01 32 13

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

1.2 RELATED REQUIREMENTS

- A. See General Conditions for additional requirements for submitting:
 - 1. List of SubContractors - General Conditions Article 15.
 - 2. Progress Schedule - General Conditions Article 12 B-3.
 - 3. Schedule of Values - General Conditions Article 12 B-2.
 - 4. Performance Bond/Labor & Material Payment Bond - General Conditions Article 2 A-2.
 - 5. Insurance Certificates - General Conditions Article 2 A-3.
 - 6. Applications for Payment - General Conditions Articles 31, 32 & 33.
- B. See Division 1 Section "Schedules and Reports" for submitting schedules and reports, including Contractor's Construction Schedule.
- C. See Division 1 Section "Quality Requirements" for submitting test and inspection reports.
- D. See Division 1 Section "Products Requirements" for product substitution submittals.
- E. See Division 1 Section "Closeout Procedures" for submitting Warranties, Record Drawings, Record Specifications, Record Product Data, Operation and Maintenance Manuals and Final paperwork.
- F. Administrative Submittals: Refer to other Division 1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
 - 1. Permits and Inspection Reports
 - 2. Applications for payment
 - 3. Performance and Payment bonds
 - 4. Insurance Certificates
 - 5. List of Subcontractors
 - 6. Schedule of Values

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Architect's responsive action.
- B. Informational Submittals: Written information that does not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

1.4 SUBMITTAL PROCEDURES

- A. Submittals for each Project shall be kept separate.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Submittals Schedule: Comply with requirements in Division 1 Section "Schedules and Reports" for list of submittals and time requirements for scheduled performance of related construction activities.
- D. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 1. Initial Review: Allow **ten (10)** days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 - 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 - 3. Resubmittal Review: Allow **seven (7)** days for review of each resubmittal.
- E. Identification: Place a permanent label or title block on each submittal for identification.
 - 1. Indicate name of firm or entity that prepared each submittal on label or title block.
 - 2. Provide a space approximately **4 by 5 inches** on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
 - 3. Include the following information on label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name and address of Contractor.
 - e. Name and address of subcontractor.
 - f. Name and address of supplier.
 - g. Name of manufacturer.
 - h. Submittal number or other unique identifier, including revision identifier.
 - i. Number and title of appropriate Specification Section.
 - j. Drawing number and detail references, as appropriate.
 - k. Location(s) where product is to be installed, as appropriate.
 - l. Other necessary identification.
- F. Deviations: Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.

- G. Additional Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
- H. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Submittals received by the Architect or Engineering/Design Consultants from sources other than the General Contractor, Architect will hold without review until written acknowledgement of review and acceptance from General Contractor is received.
 - 1. Each submittal shall have a chronological number.
 - 2. Resubmittals shall have the original submittal number and letter in alphabetical order.
 - 3. Mechanical and electrical submittals shall be broken down into parts so that individual parts can be resubmitted without confusion.
- I. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 - 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked with a form of acceptance with the Architect's action stamp.
- J. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- K. Use for Construction: Use only final submittals with mark indicating a form of acceptance with the Architect's action stamp.

1.5 CONTRACTOR'S USE OF ARCHITECT'S CAD FILES

- A. General: At Contractor's written request, copies of Architect's CAD files may be provided to Contractor for Contractor's use in connection with Project, subject to the following conditions:
 - 1. **Limited to drawings that already exist.**
 - 2. **Used by Contractor as background information only.**
 - 3. **Contractor includes a statement absolving the Architect or Engineer of all liability in connection with the use of said CAD drawing. This statement shall be included on all published drawings that include elements from the copied CAD files.**
 - 4. **Architect or Engineer will not be held responsible for delays in Contractor's submittals as a result of delivery or non-delivery of any CAD file.**

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

- A. General:
 - 1. Prepare and submit Action Submittals required by this section and individual Specification Sections.
 - 2. Contractor is responsible for all Field Measurements.
 - 3. Submittal items include, but are not limited to the following:

SCHEDULE OF PRODUCT SUBMITTALS

Item	Product Data	Shop Drawings	Mock-up, Sample or Other
Steel Access Ladder		X	
Insulation	X		
TPO Roofing Systems	X	X	X Installer certifications
Flashing and Sheet Metal		X	X (Color Selection)
Roofing Specialties	X	X	
Roofing Accessories	X	X	
Mfrd Roof Expansion Joints	X	X	
Through-Penet'n Firestop Systems	X	X (UL assemblies)	
Sealants	X		X (color selection)
Paint and High Perform Coatings	X		X (color/finish selection)
Lightning Protection Specialties	X	X	

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:
 - a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Manufacturer's catalog cuts.
 - e. Wiring diagrams showing factory-installed wiring.
 - f. Printed performance curves.
 - g. Operational range diagrams.
 - h. Compliance with specified referenced standards.
 - i. Testing by recognized testing agency.
 - j. Notation of dimensions verified by field measurement
 - k. Notation of coordination requirements.
4. Number of Copies: Submit electronically of Product Data, unless otherwise indicated. Contractor shall print up and retain one final returned copy as a Project Record Document for close-out submission.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal of Architect's CAD Drawings is otherwise permitted.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Roughing-in and setting diagrams.
 - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - f. Shopwork manufacturing instructions.
 - g. Templates and patterns.

- h. Schedules.
 - i. Notation of coordination requirements.
 - j. Notation of dimensions established by field measurement.
 - k. Relationship to adjoining construction clearly indicated.
 - l. Seal and signature of professional engineer if specified.
 - m. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
 - n. Compliance with specified standards.
2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 40 inches.
3. Number of Copies: Submit electronically & with two (2) opaque (bond) copies of each shop drawing submittal. Architect will return electronically and one bond copy. Contractor shall make & distribute any additional copies necessary. Contractor shall retain one returned copy as a Project Record Document.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
- 1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 - 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of appropriate Specification Section.
 - 3. Selection: Upon receipt of complete collection of samples, Architect will, with reasonable promptness, make selections and prepare and deliver to Contractor a schedule covering items subject to selection. Architect reserves the right not to make individual determination or selections until all samples of all materials are submitted.
 - 4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - 5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit **two (2)** full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return one submitted set with options selected.
 - 6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit **two (2)** sets of Samples. Architect will retain **one (1)** Sample set.

- E. Product Schedule or List: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location.
 - 1. Number of Copies: Submit electronically copy of product schedule or list, unless otherwise indicated. Architect will return electronically.
- F. Application for Payment: Comply with requirements specified in Division 1 Section "Payment Procedures."
- G. Schedule of Values: Comply with requirements specified in Division 1 Section "Payment Procedures."
- H. Submittals Schedule: Comply with requirements specified in Division 1 Section "Schedules and Reports."
- I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design.

2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
 - 1. Number of Copies: Submit **electronic** copies of each submittal, unless otherwise indicated. Architect will not return copies.
 - 2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - 3. Test and Inspection Reports: Comply with requirements specified in Division 1 Section "Quality Requirements."
- B. Coordination Drawings: Comply with requirements specified in Division 1 Section "Project Management and Coordination."
- C. Contractor's Construction Schedule: Comply with requirements specified in Division 1 Section "Schedules and Reports."
- D. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- E. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.
- F. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- G. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

- H. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- I. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- J. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- K. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- L. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project.
- M. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- N. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- O. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- P. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements specified in Division 1 Section "Closeout Procedures."
- Q. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
- R. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer.
- S. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
 - 1. Statement on condition of substrates and their acceptability for installation of product.
 - 2. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.

3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
- T. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.
- U. Construction Photographs and Videotape: Only if deemed necessary by the Contractor.
- V. Material Safety Data Sheets (MSDSs): Submit information directly to Owner; do not submit to Architect.
 1. Architect will not review submittals that include MSDSs and will return them for resubmittal.

2.3 DELEGATED DESIGN

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit **three (3)** originals of a statement, signed and sealed by the responsible design professional, bearing an Appropriate State of Colorado License number, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp, and will return them without action.

- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken.
- C. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- D. Partial submittals are not acceptable, will be considered non-responsive, and will be held or returned without review until complete submittal is received.
- E. Submittals not required by the Contract Documents may not be reviewed and may be discarded at the Architect's discretion.

3.3 JOB SITE DOCUMENTS

- A. Keep complete set of accepted shop drawings and product data at jobsite.

END OF SECTION 01 33 00

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Quality control services include inspections and tests, and related actions including reports performed by independent agencies, governing authorities and the Contractor. They do not include Contract Document enforcement activities performed by the Architect.
- C. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 2. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- D. See Divisions 2 through 32 Sections for specific test and inspection requirements.

1.2 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Mockups: Full-size, physical assemblies that are constructed on-site. Mockups are used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Approved mockups establish the standard by which the Work will be judged.
- D. Laboratory Mockups: Full-size, physical assemblies that are constructed at testing facility to verify performance characteristics.
- E. Preconstruction Testing: Tests and inspections that are performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.

- F. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with industry standards.
- G. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.
- H. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- I. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- J. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1.3 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Services Statement: Submit a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

1.4 CONFLICTING REQUIREMENTS

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 SUBMITTALS

- A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority. If the Contractor is responsible

for the service, submit a certified written report of each inspection, test or similar service through the Contractor, in duplicate.

B. Reports: Prepare and submit certified written reports that include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

C. Permits, Licenses, and Certificates: Submit additional copies of each written report directly to the governing authority when the authority so directs. For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.6 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- C. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.
- F. Specialists: Certain sections of the Specifications may require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirement for specialists shall not supersede building codes and regulations governing the Work.
 2. Deferred Submittal Lightning Protection Specialist shall be a Master Installer/Designer Certified the Lightning Protection Institute (LPI).
- G. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- H. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
 2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
 3. Demonstrate the proposed range of aesthetic effects and workmanship.
 4. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
 5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 6. Demolish and remove mockups when directed, unless otherwise indicated.
- I. Quality Assurance:
1. Qualification for Service Agencies: Engage inspection and testing service agencies including independent testing laboratories which are prequalified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of Independent Laboratories, and which specialize in the types of inspections and tests to be performed.
 - a. Each independent inspection and testing agency engaged on the Project shall be authorized by authorities having jurisdiction to operate in the State in which the Project is located.

1.7 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
 2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
- B. Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.

1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 2. Notify testing agencies at least **48** hours in advance of time when Work that requires testing or inspecting will be performed.
 3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. **Manufacturer's Field Services:** Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 1 Section "Submittal Procedures."
- D. **Retesting/Reinspecting:** Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- E. **Testing Agency Responsibilities:** Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform any duties of Contractor.
- F. **Associated Services:** Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 6. Security and protection for samples and for testing and inspecting equipment at Project site.

- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.8 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Owner will engage a qualified testing agency or special inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.
 - 2. Comply with the Contract Document requirements for Division 1 Section "Cutting and Patching."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 00

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. See Division 1 Section "Execution Requirements" for progress cleaning requirements.
- C. See Divisions 2 through 32 Sections for temporary heat, ventilation, and humidity requirements for products in those Sections.

1.2 SUBMITTALS

- A. Staging Plan: Showing locations of temporary facilities, staging areas, utility hookups, parking for construction personnel, and all other applicable items to be located as outlined in this section. If phased staging is anticipated, the staging plan shall indicate the phased scenarios anticipated for the duration of the project.

1.3 DEFINITIONS

- A. Permanent Enclosure: Permanent or temporary roofing is complete, insulated, and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures.

1.4 USE CHARGES

- A. General: Cost or use charges for temporary facilities shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.
- B. Water Service: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations. If Owner's existing system is not adequate or appropriately available in area of Contractor's operations, the Contractor shall provide necessary utility facilities and assume costs associated with such utility use.
- C. Electric Power Service: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations. If Owner's existing system is not adequate or appropriately available in area of Contractor's operations, the Contractor shall provide necessary utility facilities and assume costs associated with such utility use.

1.5 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- C. Accessible Temporary Egress: Comply with applicable provisions in the United States Access Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.
- D. Regulations: Comply with industry standards and applicable laws and regulations if authorities having jurisdiction including, but not limited to:
 - 1. Building Code requirements;
 - 2. Health and safety regulations;
 - 3. Utility company regulations;
 - 4. Police, Fire Department, and Rescue Squad rules; and
 - 5. Environmental protection regulations.

1.6 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.
- B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities or permit them to interfere with progress. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on the site.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide new materials; if acceptable to the Architect, undamaged previously used materials in serviceable condition may be used.
- B. Chain-Link Fencing: Minimum 2-inch 9-gage (0.148-inch), - thick, galvanized steel, chain-link fabric fencing; minimum 6 feet high with galvanized steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top and bottom rails. Provide concrete or galvanized steel bases for supporting posts if portable.
- C. Lumber and Plywood: Comply with requirements in Division 6 Section "Miscellaneous Rough Carpentry."
- D. Lumber and Plywood:
 - 1. For job-built temporary offices, shops, and sheds within the construction area, provide UL labeled, fire-treated lumber and plywood for framing, sheathing, and siding.
 - 2. For signs and directory boards, provide exterior type, Grade B-B High Density Concrete Form Overlay Plywood conforming to PS-1, or sizes and thickness indicated.

- E. Gypsum Board: Comply with ASTM C 36/C 36M.
- F. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.
- G. Tarpaulins: Provide waterproof, fire-resistant, UL labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures, provide translucent nylon reinforced laminated polyethylene or polyvinyl chloride fire retardant tarpaulins.

2.2 TEMPORARY FACILITIES

- A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading as needed by Contractor to conduct proper project supervision and maintain on-site records.
- B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
 - 1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
 - 2. Heating Units: Listed and labeled for type of fuel being consumed, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
 - 3. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide one filter with MERV 8 at each return air grille in system and remove at end of construction.
- C. Air-Filtration Units: Primary and secondary HEPA-filter-equipped portable units with four-stage filtration. Provide single switch for emergency shutoff. Configure to run continuously.
- D. General: Provide new equipment; if acceptable to the Architect, undamaged, previously used equipment in serviceable condition may be used. Provide equipment suitable for use intended.
- E. Water Hoses: Provide 3/4" heavy duty, abrasion-resistant, flexible rubber hoses 100 feet long, with pressure rating greater than the maximum pressure of the water distribution system; provide adjustable shut-off nozzles at hose discharge.
- F. Electrical Outlets: Provide properly configured NEMA polarized outlets to prevent insertion of 110 - 120 volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button, and pilot light for connection of power tools and equipment.
- G. Electrical Power Cords: Provide grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress.

- H. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered glass enclosures, where exposed to breakage. Provide exterior fixtures where exposed to moisture.
- I. Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM, or another recognized trade association related to the type of fuel being consumed.
- J. Temporary Toilet Units: Provide self-contained, single occupant toilet units of the chemical, aerated recirculation, or combustion type, properly vented and full-enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material. Use of pit-type privies will not be permitted.
- K. First Aid Supplies: Comply with governing regulations.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.
- C. Use qualified personnel for installation of temporary facilities.

3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
 - 2. Engage the appropriate local utility company to install temporary service or connect to existing service. Where the company provides only part of the service, provide the remainder with matching, compatible materials and equipment; comply with the company's recommendations.
 - 3. Arrange with the company and existing users for a time when service can be interrupted, where necessary, to make connections for temporary services.
 - 4. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
 - 5. Obtain easements to bring temporary utilities to the site, where the Owner's easements cannot be used for that purpose.
- B. Water Service: Use of Owner's existing water service facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
 - 1. Where installations below an outlet might be damaged by spillage or leakage, provide a drip pan of suitable size to minimize water damage. Drain accumulated water promptly from pans.

- C. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
 - 1. Toilets: Use of Owner's existing toilet facilities **will not** be permitted.
 - 2. Wash Facilities: Install wash facilities supplied with potable water at convenient locations for personnel involved in handling materials that require wash-up for a healthy and sanitary condition. Dispose of drainage properly.
 - 3. Provide safety showers, eye-wash fountains, and similar facilities for convenience, safety, and sanitation of personnel.
 - 4. Drinking Water Facilities: Provide containerized tap-dispenser bottled-water type drinking water units including paper supply.
- E. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
- F. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
- G. Electric Power Service: Use of Owner's existing electric power service will be permitted to the extent it is available, as long as equipment is maintained in a condition acceptable to Owner.
- H. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
 - 1. Install and operate temporary lighting that will fulfill security and protection requirements, without operating entire system, and will provide adequate illumination for construction operations and traffic conditions.
- I. Telephone Service: Provide superintendent with cellular telephone or portable two-way radio for use when away from field office.
- J. Electronic Communication Service: Contractor's home office shall have an e-mail service capable of receiving attachments.

3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
 - 1. Provide incombustible construction for offices, shops, and sheds located within construction area or within 30 feet of building lines. Comply with NFPA 241.
 - 2. Maintain support facilities until Substantial Completion, unless prior removal is specifically agreed to by Owner and Architect. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

- B. Traffic Controls: Comply with requirements of authorities having jurisdiction, including the on-site police personnel.
 - 1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 - 2. Maintain access for fire-fighting equipment and access to fire hydrants.

- C. UCCS Parking Policy for Renovation & New Construction Projects:
 - 1. Generally, parking during fall and spring semesters in central campus permit lots is not available due to high demand from students and employees. If this is the case, long-term parking for contractors in high demand lots may be denied. Long-term parking is defined as those needing to park on campus longer than one week in duration. If available, long-term parking permits can be purchased from the UCCS Parking Office using the same parking fee structure as it charges UCCS employees. For short-term parking (less than one week in duration), contractors may pay the public hourly/daily parking fee at a campus pay station or through Parkmobile.
 - 2. Contractors are not ever authorized to park in a fire lane, roadway, handicapped spaces (without a valid state-issued disability permit), reserved space, or other non-authorized space on campus. Citations issued for violations are the responsibility of the vehicle owner/driver and will not be automatically voided. However, the vehicle driver/owner does have the right to submit a formal appeal if they wish to contest the citation.
 - 3. For existing parking spaces temporarily lost to construction staging areas, the project will be charged per space for these losses. The fee per space will be at the same rate an employee would pay per semester.
 - 4. For existing parking spaces permanently lost to a construction project, at this time there is no requirement to reimburse UCCS Parking services for that permanent loss.

- D. Project Identification and Temporary Signs: Provide Project identification and other signs as approved by Owner in accordance with the General Conditions. Install signs where indicated to inform public and individuals seeking entrance to Project. Unauthorized signs are not permitted.
 - 1. Provide temporary, directional signs for construction personnel and visitors.
 - 2. Maintain and touchup signs so they are legible at all times.

- E. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with Division 1 Section "Execution Requirements" for progress cleaning requirements.

- F. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
 - 1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

- G. Existing Elevator Use: Use of Owner's existing elevator will not be permitted.

- H. Existing Stair Usage: Use of Owner's existing stairs will not be permitted.

- I. Temporary Exterior Access Ladders: Ladders shall be permitted in locations approved in advance by the Owner. Ladders shall be in compliance with OSHA regulations. Ground level

access to ladders shall be protected, signed, and barricaded to prevent general public access to ladders in a manner approved by the Owner in advance.

- J. Scaffolds: If Contractor requires scaffolds to perform work, the Scaffolds shall be in compliance with OSHA regulations.
- K. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than seven (7) days during normal weather or three (3) days when the temperature is expected to rise above 80 degrees F. Handle hazardous, dangerous, unsanitary, or recyclable waste materials separately from other waste by containerizing properly. Dispose of material in a lawful manner. Cover and secure open trash receptacles to prevent wind blown debris.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- B. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction.
- C. Stormwater Control: Comply with authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains. The awarded contractor will comply the requirements of the Erosion and Stormwater Quality Control Plan and acknowledge the responsibility to determine whether the construction activities on these plans require Colorado Discharge Permit System (CDPS) permitting for stormwater discharges associated with construction activity and to comply with the City of Colorado Springs WQM (DCM, Volume 2).
- D. Tree and Plant Protection: Install temporary fencing located as required or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
- E. Pest Control: Maintain job site conditions to prevent pest infestations. If necessary, engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, insects, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Obtain extended warranty for Owner. Perform control operations lawfully, using environmentally safe materials.
- F. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- G. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
- H. Temporary Partitions: Where necessary, provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner from fumes and noise.

1. Construct dustproof partitions with 2 layers of 3-mil polyethylene sheet on each side. Cover floor with 2 layers of 3-mil polyethylene sheet, extending sheets 18 inches up the sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant plywood.
 - a. Construct vestibule and airlock at each entrance through temporary partition with not less than 48 inches between doors. Maintain walk-off mats in vestibule.
 2. Insulate partitions to provide noise protection to occupied areas.
 3. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
 4. Protect air-handling equipment.
 5. Weather strip openings.
 6. Provide walk-off mats at each entrance through temporary partition.
- I. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with IFC Chapter 14 and NFPA 241.
1. Prohibit smoking in **ALL** areas.
 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
 3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

3.5 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than as determined by the Owner and Architect after Substantial Completion.. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work or Existing site conditions, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 2. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 1 Section "Closeout Procedures."

3.6 CONTRACTOR DELIVERIES

- A. Contractor deliveries shall be arranged to go directly to the Contractor. They shall not be delivered to Owner or the Owner's Mail Room.

END OF SECTION 01 50 00

SECTION 01 55 00- SITE ACCESS, STAGING AND PHASING

PART 1 GENERAL

1.1 DESCRIPTION

- A. Work Included: This specification section covers the allowable access locations and setup procedures.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the crafts and who are completely familiar with the specified requirements and the methods needed for the proper performance of the work of this Section.
- B. Only qualified personnel may use equipment or give signals to equipment operators.
- C. Operate all equipment within equipment design standards.
- D. Photograph all surfaces that are to be used for storage. Photographs need to be of sufficient clarity to indicate the condition of the storage surface and any adjacent walls, streets or sidewalks. Provide one set of the photographs to the Owner prior to the start of work. Contractor shall restore all affected surfaces to the same condition at job's end.

1.3 SUBMITTALS

- A. Submit the phasing and egress plan described below to the Architect and Owner for acceptance. Once accepted it will be submitted to the State's Code Consultant for approval.

1.4 EQUIPMENT HANDLING

- A. Schedule equipment arrival and significant material deliveries with Building Staff so as not to interfere with normal facility operations.
- B. Do not block any roads or entrances without 72 hours of notification and Building Staff approval.
- C. Secure all delivered equipment and setup material against theft or vandalism.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 PHASING REQUIREMENTS

- A. The contractor shall develop a phasing plan based on the phasing and egress concept indicated in the Contract Documents. Demonstrate the extent and perimeter of demolition/construction activities to allow public access around the affected project areas and to maintain all required egress from the buildings during the construction project. The plan shall also indicate how and where temporary guards or barriers will be located such that the walkways may be safely used as emergency egress paths once the deteriorated deck toppings have been replaced. The plan shall take into consideration all demolition activities and the material and equipment movement to and away from the project area.

3.2 SITE ACCESS

- A. Site access locations are shown on the drawings. The Contractor must stay within these boundaries.
- B. Access to the site may be restricted by Building Events. Coordinate access requirements with the Building Staff.
- C. Limited amounts of water and electricity shall be provided by the Owner.
- D. Do not block or lock building exits or entrances without permission from the Building Staff.
- E. Setup areas must be kept clean or screened off.
- F. Interior access will not be allowed.
- G. If access openings must be cut to install new materials, coordinate with Building Staff. Obtain utility locate prior to cutting into any concealed spaces.

3.3 INTERIOR STORAGE AND ACCESS

- A. No interior access or storage is allowed.

3.4 COMPLIANCE

- A. Do not permit materials not complying with provisions of this Section to be brought onto or stored at the job site.
- B. Promptly remove non-complying materials and replace with materials meeting the requirements of this Project.

3.5 DISPOSAL CHUTE

- A. Where damage to the existing facility is a possibility, or where there is danger to persons below, a disposal chute must be used or a tarp that completely covers the side of the building.

END OF SECTION 01 55 00

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.
- B. See Division 1 Section "Submittal Procedures" for submittal requirements.
- C. See Division 1 Section "Closeout Procedures" for submitting warranties for Contract closeout.
- D. See Divisions 2 through 33 Sections for specific requirements for warranties on products and installations specified to be warranted.

1.2 DEFINITIONS

- A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.

1.3 SUBMITTALS

- A. Substitution Requests: Submit electronically with two opaque (2) copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. All Substitution Requests must be made during the Bidding Period.

- a. Substitution requests for Cold Weather application methods of any specific materials will be accepted for review after the Contractor has prepared an acceptable project schedule.
2. **Requests received after the Bidding Period may be considered or rejected without consideration at the discretion of the Architect.**
3. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified material or product cannot be provided.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
 - i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
 - j. Cost information, including a proposal of change, if any, in the Contract Sum.
 - k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
 - l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
4. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within ten days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
 - a. Form of Acceptance: Addenda or Change Order.
 - b. Use product specified if Architect cannot make a decision on use of a proposed substitution within time allocated.
 - c. The Contractor's submittal and Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.

- B. Comparable Product Requests: Submit electronically with two **(2)** opaque copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Requests must be submitted during the Bidding period, no later than the stated deadline for questions.
 - 2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within ten days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Division 1 Section "Submittal Procedures."
 - b. Use product specified if Architect cannot make a decision on use of a comparable product request within time allocated.
 - c. The Contractor's submittal and Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.
- C. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 1 Section "Submittal Procedures." Show compliance with requirements.
 - 1. Submitted product must be from list of approved manufacturers, otherwise submittal will be considered a Substitution and must follow submittal procedures described above for Substitution Requests.

1.4 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.
- B. Source Limitations: To the fullest extent possible, provide products of the same kind, from a single source.
 - 1. When specified products are available only from sources that do not or cannot produce a quantity adequate to complete project requirements in a timely manner, consult with the Architect for a determination of the most important product qualities before proceeding. Qualities may include attributes relating to visual appearance, strength, durability, or compatibility. When a determination has been made, select products from sources that produce products that possess these qualities, to the fullest extent possible.
- C. Nameplates: Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which will be exposed to view in occupied spaces or on the exterior.
 - 1. Labels: Locate require product labels and stamps on a concealed surface or, where required for observation after installation, on an accessible surface that is not conspicuous.
 - 2. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on an easily accessible surface which is inconspicuous in occupied spaces. The nameplate shall contain the following information and other essential operating data:

- a. Name of product and manufacturer;
- b. Model and serial number;
- c. Capacity;
- d. Speed; and
- e. Ratings.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
- C. Storage:
 1. Store products to allow for inspection and measurement of quantity or counting of units.
 2. Store materials in a manner that will not endanger Project structure.
 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 4. Store cementitious products and materials on elevated platforms.
 5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 7. Protect stored products from damage and liquids from freezing.

1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents. See Division 1 Section "Closeout Procedures" for additional information.
 1. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 2. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: When specified forms are included with the Specifications, prepare a written document using appropriate form properly executed.
3. Refer to Divisions 2 through 33 Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Division 1 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.

B. Product Selection Procedures:

1. Product: Where Specifications name a single product and manufacturer, provide the named product that complies with requirements.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements.
3. Available Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.
4. Available Manufacturers: Where Specifications include a list of manufacturers, provide a product by one of the manufacturers listed, or an unnamed manufacturer, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.
5. Product Options: Where Specifications indicate that sizes, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide the specified product or system. Comply with provisions in Part 2 "Product Substitutions" Article for consideration of an unnamed product or system.
6. Basis-of-Design Product: Where Specifications name a product and include a list of manufacturers, provide the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product by the other named manufacturers.

7. Visual Matching Specification: Where Specifications require matching an established Sample, select a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
 - a. If no product available within specified category matches and complies with other specified requirements, comply with provisions in Part 2 "Product Substitutions" Article for proposal of product.
8. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product that complies with other specified requirements.
 - a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that does not include premium items.
 - b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 PRODUCT SUBSTITUTIONS

- A. Timing: Architect will consider requests for substitution if received within Bid Period as noted in Article 1. above. Requests received after that time may be considered or rejected without consideration at discretion of Owner and approval of Architect.
- B. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 1. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
 2. Requested substitution does not require extensive revisions to the Contract Documents.
 3. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 4. Substitution request is fully documented and properly submitted.
 5. Requested substitution will not adversely affect Contractor's Construction Schedule.
 6. Requested substitution has received necessary approvals of authorities having jurisdiction.
 7. Requested substitution is compatible with other portions of the Work.
 8. Requested substitution has been coordinated with other portions of the Work.
 9. Requested substitution provides specified warranty.

2.3 COMPARABLE PRODUCTS

- A. Conditions: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 1. Evidence that the proposed product does not require extensive revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.

University of Colorado, Colorado Springs
Replace Roof, Columbine Hall
Bid Documents

2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 60 00

SECTION 01 70 00 - EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
1. Construction layout.
 2. Field engineering and surveying.
 3. General installation of products.
 4. Progress cleaning.
 5. Starting and adjusting.
 6. Protection of installed construction.
 7. Correction of the Work.
- B. See Division 2 Section "Selective Demolition" concerning existing hazardous materials encountered.

1.2 SUBMITTALS

- A. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.
1. Before construction, verify the location and points of connection of utility services.
- B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework or placement of any heavy equipment (e.g. cranes), investigate and verify the existence and location of underground utilities and other construction affecting the Work.
1. **Prior to any excavation Contractors shall call the Utilities Notification Center of Colorado at 1-800 922-1987.**

2. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
 3. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
1. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 2. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 3. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 4. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to **local utility** and **Owner** that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
1. Notify **Owner** not less than **seven (7)** days in advance of proposed utility interruptions.
 2. Do not proceed with utility interruptions without **Owner's** written permission.
- C. Existing Mechanical Systems Interruptions: Do not perform work which will require the temporary disruption/shutdown of building mechanical/HVAC systems to prevent the intake of objectionable odors, without coordinating the necessary interruption serving facilities occupied by Owner with the designated Owner's representative. Such work is only permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
1. Notify **Owner** not less than **seven (7)** days in advance of proposed mechanical system interruptions, to allow Owner proper notification of the building occupants. These shall be forecasted at each progress meeting with the Owner.
 2. Specifically notify the Owner's representative the day prior to the disruptive work activities to assure that the Owner will coordinate the necessary equipment shutdown and re-start.
 3. Do not proceed with disruptive work activities without **Owner's** specific acknowledgement of the necessary mechanical systems shutdowns.
- D. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

- E. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- F. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents. RFI format will be discussed at Preconstruction meeting. Architect shall approve an acceptable written format.

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings. If discrepancies are discovered, notify Architect and Owner promptly.
- B. Visual Effects: Provide uniform joint widths in exposed Work. Arrange joints in exposed Work to obtain the best visual effect. Refer questionable choices to the Architect for final decision.
- C. Location Of Equipment And Piping:
 - 1. Drawings showing location of equipment, piping, ductwork, etc. are diagrammatic and job conditions shall not always duplicate conditions shown. When this situation occurs, it shall be brought to the Architect's attention immediately and the relocation determined in a joint conference.
 - 2. The Contractor shall be responsible for the relocating of any items without first obtaining the Architect's approval. He shall remove and relocate such items at his own expense if so directed by the Architect.

3.4 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in the Contract Documents.
- C. Install products at the time and under conditions, including weather that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

- G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.
- J. Coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.

3.5 PROTECTION OF EXISTING FACILITIES

- A. General: Contractor shall take necessary precautions to protect existing building elements including interior spaces below the associated roofing work. Specifically, Contractor shall provide and perform necessary temporary sealing techniques to minimize debris/dust infiltration into the building through joints and openings in the roof structure. See Section 02 41 19 Selective Demolition for additional requirements.

3.6 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning

materials that are not hazardous to health or property and that will not damage exposed surfaces.

- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.
 - 1. Excessive static or dynamic loading;
 - 2. Excessive internal or external pressures;
 - 3. Excessively high or low temperatures;
 - 4. Thermal shock;
 - 5. Excessively high or low humidity;
 - 6. Air contamination or pollution;
 - 7. Water or ice;
 - 8. Solvents;
 - 9. Chemicals;
 - 10. Light;
 - 11. Radiation;
 - 12. Puncture;
 - 13. Abrasion;
 - 14. Heavy traffic;
 - 15. Soiling, staining, and corrosion;
 - 16. Bacteria;
 - 17. Rodent and insect infestation;
 - 18. Combustion;
 - 19. Electrical current;
 - 20. High speed operation;
 - 21. Improper lubrication;
 - 22. Unusual wear or other misuse;
 - 23. Contact between incompatible materials;
 - 24. Destructive testing;
 - 25. Misalignment;
 - 26. Excessive weathering;
 - 27. Unprotected storage;
 - 28. Improper shipping or handling;
 - 29. Theft; and
 - 30. Vandalism.

3.7 Dust Control: Precaution shall be exercised at all times to control dust created as a result of any operations during the construction period. If serious problems arise due to air borne dust, and when directed by Architect or Owner's project representative, operations causing such problems shall be temporarily discontinued and necessary steps taken to control the dust.

3.8 FIRE PROTECTION

- A. Maintain good housekeeping practices to reduce the risk of fire damage and injury to workmen. All scrap materials, rubbish and trash shall be removed daily from in and about the work area and shall not be permitted to be scattered to adjacent areas.
- B. Suitable storage space shall be provided outside the immediate building area for storing flammable materials and paints; no storage will be permitted in the building. Excess flammable liquids being used inside the building shall be kept in closed metal container and removed from the building during unused periods.
- C. A fire extinguisher shall be available at each location where cutting or welding is being performed. Where electric or gas welding or cutting work is done, interposed shields of incombustible material shall be used to protect against fire damage due to sparks and hot metal. Provide a suitable portable welding booth to shield flash from occupants. Vent booth to the outside.
- D. Provide fire extinguishers in accordance with the recommendations of NFPA Bulletins Nos. 10 and 241. However, in all cases a minimum of four fire extinguishers shall be available for each building.

3.9 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 1 Section "Quality Requirements."

3.10 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.11 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 1 Section "Cutting and Patching."

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 01 70 00

SECTION 01 73 10 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes procedural requirements for cutting and patching.
- B. See Divisions 2 through 33 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.2 SUBMITTALS

- A. Cutting and Patching Proposal: If contractor believes that cutting and patching other than that indicated on the drawings is necessary, submit a proposal describing procedures at least **seven (7)** days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
 - 1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
 - 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
 - 3. Products: List products to be used and firms or entities that will perform the Work.
 - 4. Dates: Indicate when cutting and patching will be performed.
 - 5. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.
 - 6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
 - 7. Architect's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.3 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
- C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.

- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

1.4 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1. Coordinate cutting and patching of any work that affects the work of the Owner or any separate Contractor.
 - 2. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
 - 3. Report unsatisfactory or questionable conditions to the Architect. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

- D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

3.3 PERFORMANCE

- A. General: Employ qualified skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete & Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Excavating and Backfilling: Comply with requirements in applicable Division 2 & 31-33 Sections where required by cutting and patching operations.
 - 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - 6. Proceed with patching after construction operations requiring cutting are complete.
- C. Temporary Patching and Protection: Maintain the integrity and effectiveness of weather exposed or moisture elements or systems.
- D. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - 4. Ceiling Insulation: Patch, repair, or rehang in-place ceiling insulation as necessary to provide an even-plane surface of uniform appearance. Refer to Drawings for specific directions.

5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.
- E. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 01 73 10

SECTION 01 77 00 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures
 - 2. Punchlist
 - 3. Project Record Documents
 - 4. Operation and Maintenance Manuals
 - 5. Warranties
 - 6. Instruction of Owner's personnel
 - 7. Final cleaning
- B. See the General Conditions of the Contract for the specific requirements governing the administrative and procedural requirements for contract closeout, in particular Articles 41 – 45.
- C. See Division 1 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
- D. See Divisions 2 through 32 Sections for specific closeout and special cleaning requirements for products of those Sections.

1.2 CONTRACTOR'S LIST OF INCOMPLETE ITEMS (PRE-PUNCH LIST)

- A. Preparation: Prior to the Contractor's request for an inspection for determining Substantial Completion, the Contractor shall prepare a list of incomplete items (pre-punchlist). In a format acceptable to the Architect, submit an editable electronic copy of the Contractor's generated list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 - 1. Organize list of spaces in sequential order.
 - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
- B. Punchlist: When the Architect determines that the "pre-punchlist" has been reduced to an acceptable level, the Architect and its consultants will perform a formal punchlist observation.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (pre-punch list). (See Article 1.2 of this Section for a more detailed description of requirements.)

2. Substantially correct items on the Architect/Engineer's punchlist (See Article 1.2.B of this Section), and provide the Architect with a list describing the remaining/incomplete items.
3. Advise Owner of pending insurance changeover requirements.
4. Submit specific inspection approvals, warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
5. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
8. Complete startup testing of systems.
9. Submit test/adjust/balance records.
10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
11. Advise Owner of changeover in heat and other utilities.
12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
13. Complete final cleaning requirements, including touchup painting.
14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Notice of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before the Notice will be issued.

1. Architect reserves the right to discontinue any inspection or reinspection if in the Architect's opinion the project is not sufficiently complete for a meaningful inspection.
2. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
3. Results of completed inspection will form the basis of minimum requirements for Final Completion.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
2. Submit Consent of Surety to Final Payment
3. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
4. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
5. If required elsewhere in this specification, submit pest-control final inspection report and warranty.
6. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

7. Prepare and submit Project Record Documents, warranties, operation and maintenance manuals, property surveys, AHJ inspection reports, final project photographs and similar final record information as applicable.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. After inspection, Architect will notify Contractor of construction that must be completed or corrected. Work is not complete if, pursuant to an inspection, a punchlist of more than ten (10) minor items would result.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Architect reserves the right to discontinue any inspection or reinspection if in the Architect's opinion the project is not sufficiently complete for a meaningful inspection.
- C. Post Final Inspection Procedures: When the Architect finds the work to be acceptable under the Contract Documents, and the punchlist contains no more than 10 items, the Architect will recommend to State Buildings Programs and the Principal Representative issuance of the Notice of Acceptance. Upon receipt of the Notice of Acceptance, the Contractor shall:
1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
 2. Submit Consent of Surety to Final Payment
 3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

1.5 FINAL PAPERWORK

- A. Prior to release of final payment, Contractor shall deliver to the Architect the following items (which are described in greater detail elsewhere in the specifications and General Conditions):
1. Governing Agency Inspection Certificates, as applicable.
 2. Contractor's Warranty of Materials and Workmanship.
 3. Maintenance Manuals and Parts Lists, as specified.
 4. All product/equipment Guaranties, Warranties and Submittals, as specified.
 5. Transmittal for Extra Materials Delivered to the Owner.
 6. Transmittal for Miscellaneous Keys, Switches, etc. delivered to owner
 7. Final Application for Payment.
 8. Consent of Surety to Final Payment.
 9. Project Record Documents.
 10. Contractors Notification Letter of Completion
 11. A/E Final Inspection/Punchlist
 12. Approval of Beneficial Occupancy (if applicable)
 13. Pre-Acceptance Checklist (SBP-05)
 14. Completed Building Inspection Record
 15. Pre-Acceptance Punch List (SBP-06)
 16. Test and Balance Reports (if applicable)
 17. Commissioning Report (if applicable)
 18. Owners Training sign-in sheets
 19. Five Most Costly Goods Form

1.6 PROJECT RECORD DOCUMENTS

- A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. **Post changes and modifications to the**

documents as they occur, do not wait until the end of the project. Provide access to Project Record Documents for Architect's reference during normal working hours.

- B. Submittals: Submit **one (1)** complete set of Project Record Documents.
1. Project Record Documents shall consist of:
 - a. Contract Drawings, Project Specifications, and Addenda
 - b. Shop Drawings
 - c. Submitted Product Data, Samples, Calculations and other Information
 - d. Change Orders and other modifications to Contract.
 - e. Field Test Records
 2. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.
 3. Identify and date each Record Specification in a prominent location on the cover.
 4. Bind all other Record documentation in heavy-duty 3-ring binder(s) with full spine and coversheet inserts. Identify each binder on the front and spine with the typed or printed title "RECORD PRODUCT DATA", Project name, and name of Contractor
- C. Record Drawings: Maintain black-line white prints of Contract Drawings and Shop Drawings.
1. Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Record all changes to original drawings, such as but not limited to the following: field changes of dimension and detail, changes by change order or field order, details not on original contract drawings.
 - b. Give particular attention to information on concealed elements that cannot be readily identified and recorded later, such as but not limited to the following: depth of foundations, horizontal and vertical location of underground utilities, and location of internal utilities and appurtenances concealed in the construction.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
 3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
 4. Note Architect's Supplemental Instruction numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
- D. Record Specifications: Submit **two (2)** copies of Project's Specifications, including addenda and contract modifications. Mark copies to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Note related Change Orders and Record Drawings, where applicable.

- E. Record Product Data: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 - 3. Note related Change Orders and Record Drawings, where applicable.
 - 4. Where record Product Data is required as part of Maintenance Manuals, submit marked-up Product Data as an insert in the manual instead of submittal as record Product Data..

- F. Miscellaneous Record Submittals: Assemble miscellaneous records such as documentation of foundation depths, special measurements, tests and inspection reports, surveys and documents required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
 - 1. Each subcontractor shall, upon completion of the work, secure certificates from any state or local governing bodies having jurisdiction in dictating that the work is in strict accordance with the applicable codes and deliver same to the Contractor for transmittal to the Owner via the Architect.

- G. Record Sample Submittal
 - 1. Immediately prior to date of Completion meet with the Architect and the Owner's personnel at the site to determine which of the Samples maintained during the construction period shall be transmitted to the Owner for record purposes. Comply with the Architect's instructions for packaging, identification marking, and delivery to the Owner's Sample storage space. Dispose of other Samples in a manner specified for disposing surplus and waste materials.

- H. Submission: At completion of project, deliver record documents to Architect with transmittal letter containing date, project title and number, Contractor's name and address, title and number of each record document and certification that each document is complete and accurate. Submittal shall be signed by Contractor.

- I. Electronic File: Provide Owner with an electronic version of Record Documents in PDF format via a distribution format acceptable to Owner (Electronic transmittal, USB portable drive, CD/DVD, etc.).

1.7 OPERATION AND MAINTENANCE MANUALS

- A. Assemble **two (2)** complete sets of operation and maintenance data indicating the operation and maintenance of each system, subsystem, and piece of equipment not part of a system. Project Record Documents shall NOT be used for these Operation and Maintenance Manuals. Include operation and maintenance data required in individual Specification Sections and as follows.

- B. Architectural Products: Manufacturer's data and instructions on care and maintenance including applied materials and finishes. Complete information shall include manufacturer's catalog number, size, material composition, color, texture, and reordering information for specially manufactured products. Include schedules or location descriptions for all variations in material color or finish for flooring, painting, glazing, ceiling finishes

- C. Products Exposed to Weather: Provide complete manufacturer's data with instructions on inspection, maintenance, and repair of products exposed to the weather or designed for moisture protection purposes. Complete information shall include applicable standards, chemical composition, installation details, inspection procedures, maintenance information and repair procedures.
- D. Equipment and Systems Manual: Provide Operation and Maintenance Data necessary to properly operate and maintain the equipment and systems as indicated but not limited to the following:
 - 1. Alphabetical list of all system components, with name, address, and 24 hour phone number of company responsible for servicing each item during the first year of operation.
 - 2. Operation Data: Include emergency instructions and procedures, system and equipment descriptions (including product name and model number, mfrs name, equipment identification and serial number, equipment function, operating characteristics, limiting conditions, performance curves, engineering data and tests and complete nomenclature and number of replacement parts), schematic diagrams, operating procedures (including start-up, break-in, control procedures; stopping and normal shut-down instructions; normal, seasonal and weekend operating instructions; and required sequences for electrical systems), and sequence of operations and control diagrams.
 - 3. Maintenance Data: Include manufacturer's information (manufacturer's name, product name and model number, reordering/contact information), list of spare parts, maintenance procedures (including manufacturer's written inspection procedures, cleaning agents, methods of cleaning, cleaning and repair instructions), maintenance and service schedules for preventive and routine maintenance, and copies of warranties and bonds.
- E. Organize operation and maintenance manuals into suitable sets of manageable size. Bind and index data in heavy-duty, three-ring, vinyl-covered, loose-leaf binders with tab dividers, in thickness necessary to accommodate contents, with pocket inside the covers to receive folded oversized sheets. Identify data within each section with identification numbers as they appear on drawings and by specifications section and Article number. Identify each binder on front and spine with the printed title "OPERATION AND MAINTENANCE MANUAL," Project name, and subject matter of contents.
- F. Electronic File: Provide Owner with electronic version of Operation & Maintenance Manual in PDF format via a distribution format acceptable to Owner (Electronic transmittal, USB portable drive, CD/DVD, etc.).

1.8 WARRANTIES

- A. General: General and Special Warranties and/or Guarantees shall be provided with terms as described in the **General Conditions of the Contract, and within individual Specification Sections**.
- B. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor' of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.
- C. Submittal Time: All warranties shall commence with date of Substantial Completion unless indicated elsewhere in the Project Documents or if an item is determined by the Architect at the time of Substantial Completion to be not suitable for acceptance. Submit written warranties on

request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated or determined by the Architect to be necessary.

- D. Warranties: All warranties shall be dated from the date of the Architect's Notice of Substantial Completion. Warranties of the types described below shall be signed as noted, addressed to the Owner and delivered to the Architect. If the Contractor elects to request Partial Notices of Substantial Completions to establish different warranty periods as various roofing work is fully completed within certain sections of the project, all applicable procedural requirements must be completed individually for each Partial Notice of Substantial Completion.
1. Warranty: Based on the provisions of the Contract Documents properly signed and notarized by the Contractor.
 - a. Provide separate written warranties from mechanical and electrical subcontractors.
 2. Subcontractor Warranties: Include labor and materials signed by manufacturer or subcontractor as case may be and countersigned by subcontractor.
 3. Extended warranties: Based on the provisions of the Contract Documents properly signed by subcontractors and manufacturers.
 4. Manufacturer Warranties: Based on the provisions of the Contract Documents properly signed by manufacturer.
 - a. Manufacturer's Warranties: Supplement and do not replace implied and express warranties provided for by Uniform Commercial Code. Any statements in manufacturer's warranties denying or limiting responsibility for such implied and express warranties shall be void.
- E. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
1. Provide duplicates of all warranties.
 2. Bind warranties and bonds in same heavy-duty, 3-ring binder as the O & M manuals.
 3. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation.
 4. Provide a typed list of all Material Suppliers Contractors and Subcontractors involved with the project. Provide a description of the product or installation that each participant was involved with, including the name of the product and the name, address, and telephone number of Supplier/Installer.
 5. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- F. Warranty Requirements:
1. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.
 2. Reinstatement of Warranty: When Work covered by a warranty has failed and has been corrected by replacement or rebuilding; reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
 3. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. The Contractor is responsible for the cost of replacing or

rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.

4. Owners Recourse: Expressed warranties made to the Owner are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law. Express warranty periods shall not be interpreted as limitations on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.
 - a. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selection of products with warranties not in conflict with requirement of the Contract Documents.
5. Where the Contract Documents require a special warranty or similar commitment on the Work or part of the Work, the Owner reserves the right to refuse to accept the Work, until the Contractor presents evidence that entities required to countersign such commitments are willing to do so.

1.9 MISCELLANEOUS KEYS, SWITCHES, WRENCHES AND EXTRA MATERIALS.

- A. Submittal: At completion of project, account for all loose keys for hose bibs, adjustment keys and wrenches for door closers and panic hardware, keys for electric switches, electrical panels, etc. and turn over to Contractor for transmittal to Owner.
- B. Deliver all Extra Materials specified in the Contract Documents at a time and to a location as directed by the Owner. Contractor shall provide a detailed transmittal of all material, and have the Owner's representative sign the transmittal signifying receipt of said items. A copy of the signed transmittal shall be delivered to the Architect.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 DEMONSTRATION AND TRAINING

- A. Instruction: Instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 1. Provide instructors experienced in operation and maintenance procedures.
 2. Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.
 3. Schedule training with Owner, with at least **ten (10)** days' advance notice.
 4. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.

3.2 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - g. Sweep concrete floors broom-clean in unoccupied spaces.
 - h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 - i. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - j. Remove labels that are not permanent.
 - k. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and similar labels, including rated door frame assemblies, and mechanical and electrical nameplates.
 - l. Wipe surfaces of mechanical and electrical equipment, elevator equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - m. Replace parts subject to unusual operating conditions.
 - n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - o. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - p. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - q. Leave Project clean and ready for occupancy.

- r. Repair and/or replace any landscaping damaged during construction. If new plantings are required, Contractor shall properly maintain until replacement landscaping is fully sustainable by regular Owner maintenance operations.

- C. Pest Control: If required elsewhere in the Project Documents or if project becomes infested while under control of Contractor, engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests. Prepare a report.

- D. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

- E. Environmental Requirements: Conduct cleaning and waste disposal operations in compliance with local and federal laws and ordinances. Comply fully with federal and local environmental and antipollution regulations.

END OF SECTION 01 77 00

SECTION 02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Demolition and removal of selected portions of building or structure.
 - 2. Demolition and removal of selected site elements.
 - 3. Salvage of existing items to be reused.
- B. In addition to demolition specifically shown, cut, move, and remove items as necessary to provide access or to allow alterations and new work to proceed. Include such items as:
 - 1. Repair or removal of hazardous or unsanitary conditions.
 - 2. Removal of abandoned items and items serving no useful purpose, such as abandoned piping, conduit and wiring.
 - 3. Removal of unsuitable or extraneous materials not marked for salvage, such as abandoned furnishings and equipment, and debris such as rotted wood, rusted metals, and deteriorated concrete.
 - 4. Cleaning of surfaces, and removal of surface finishes, as needed to install new work and finishes.
- C. See Division 0 "General Conditions" for encounter of hazardous materials.
- D. See Division 2 "Asbestos Abatement" for Delegated Design and abatement of ACM.
- E. See Division 1 Sections "Execution Requirements" and "Cutting and Patching" for additional requirements.

1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction and deliver them to Owner.
- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 SUBMITTALS

- A. Pre-demolition Photographs or Videotapes: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damaged caused by selective demolition operations.

- B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.4 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Obtain required permits from authorities, including but not limited to Right-of Way encroachments, hot-work permits, hazardous material disturbance/abatement permits and hauling or disposal permits.
- D. Standards: Comply with ANSI/ASSP A10.6 and NFPA 241.
- E. Pre-demolition Conference: Conduct conference at Project site.

1.5 PROJECT CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
 - 1. The drawings indicate items that will be removed / demolished by Owner. Coordinate this work with Owner as necessary.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is expected that hazardous materials could be encountered in the Work. Owner is presently testing existing roof for presence of hazardous materials. See General Conditions and specifications section 00 31 26 for additional clarifications on the delegated design and abatement of identified Asbestos Containing Materials (ACM).
 - 1. If additional materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Owner may elect to remove or abate hazardous materials under a separate contract.
- E. Unless otherwise indicated, demolition waste becomes property of Contractor.
 - 1. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner. Carefully salvage in a manner to prevent damage and promptly return to Owner.
- F. Storage or sale of removed items or materials on-site is not permitted.

- G. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.
- H. Do not close or obstruct exits without Jurisdictional and Owner approval.

1.6 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- D. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.
 - 1. If existing utility interruptions are necessary schedule interruptions of building utilities for hours when building is closed to normal operations, i.e., weekends, evenings, etc. Notify Owner a minimum of **48** hours in advance of all utility interruptions, including those scheduled for off hours.
- B. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Arrange to shut off indicated utilities with utility companies.
 - 2. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.

3. Cut off pipe or conduit in walls or partitions to be removed. Drain, cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing with same or compatible piping or conduit material.
 4. Ducts to Be Removed or Abandoned: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible similar ductwork material.
- C. Modifications to existing structural elements are not believed to be necessary under this project scope of work, however Contractor shall notify Architect in advance if they believe modification to any existing structural elements are necessary for evaluation.

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
1. Comply with requirements for access and protection specified in Division 1 Section "Temporary Facilities and Controls."
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished. Strengthen or add new supports when required during progress of removal work.

3.4 SELECTIVE DEMOLITION – GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Do not demolish building elements beyond what is indicated on Drawings without Architect's approval. Use methods required to complete the Work within limitations of governing regulations and as follows:
1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 2. Do not use explosives.
 3. Break concrete and masonry into sections less than 3 feet in any dimension.
 4. Nuisance Dust Control:
 - a. Demolition debris that contains dust or other material that could become airborne or create a nuisance shall either be removed from the work site daily, or shall be covered and secured with tarps or sheeting until removed from the site.
 - b. Apply a water mist, or other means approved by the Owner, on debris to control or mitigate airborne dust or airborne nuisances, unless the material will become friable (i.e., crumble easily) or will dissolve in water. Friable material and material that may dissolve in water shall be securely covered with tarps or sheeting.
 - c. Demolition debris that becomes friable when wetted or will dissolve in water shall be stored only on impervious surfaces, field-installed ground sheeting, or other barriers.

5. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 6. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations and for duration as required by jurisdictional or owner required hot-work permits (or in absence of a hot-work permit, a minimum of 6 hours).
 7. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 8. Dispose of demolished items and materials promptly and properly.
- B. Protection of Existing Facilities: Contractor shall take necessary precautions to protect existing building elements including interior spaces below the associated roofing work. Specifically, Contractor shall provide and perform necessary temporary sealing techniques to minimize debris/dust infiltration into the building through joints and openings in the roof structure. Contractor is solely responsible for providing adequate preventative methods / techniques / materials to minimize the infiltration of dust and debris during the demolition processes.
- C. Removed and Salvaged Items:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to Owner.
 4. Transport items to Owner's storage area designated by Owner.
 5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 3. Protect items from damage during transport and storage.
 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.
- F. Existing structures, facilities, etc. that are damaged or removed due to required construction work, shall be patched, repaired, or replaced, and be left in their original state of repair by the Contractor, to satisfaction of the Architect.
- ### 3.5 DISPOSAL OF DEMOLISHED MATERIALS
- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site in accordance with local, state, and federal laws and regulations, and legally dispose of them in an EPA-approved landfill.
1. Do not allow demolished materials to accumulate on-site.

2. Transport demolished materials off Owner's property and legally dispose of them.
3. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
4. Do not burn demolished materials.
5. Comply with documentation requirements specified in Division 1 Sections "Closeout Procedures."

3.6 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 02 41 19

SECTION 055000 - METAL FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Metal ladders.

B. Products furnished, but not installed, under this Section include the following:

1. Loose steel lintels.
2. Anchor bolts, steel pipe sleeves, slotted-channel inserts, and wedge-type inserts indicated to be cast into concrete or built into unit masonry.
3. Steel weld plates and angles for casting into concrete.

1.2 ACTION SUBMITTALS

A. Product Data: For the following:

1. Nonslip aggregates and nonslip-aggregate surface finishes.
2. Fasteners.
3. Shop primers.
4. Manufactured metal ladders.

B. Shop Drawings: Show fabrication and installation details. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items.

PART 2 - PRODUCTS

2.1 METALS

A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

B. Steel Plates, Shapes, and Bars: ASTM A36/A36M.

C. Rolled-Steel Floor Plate: ASTM A786/A786M, rolled from plate complying with ASTM A36/A36M or ASTM A283/A283M, Grade C or D.

D. Abrasive-Surface Floor Plate: Steel plate with abrasive granules rolled into surface or with abrasive material metallurgically bonded to steel.

E. Steel Tubing: ASTM A500/A500M, cold-formed steel tubing.

F. Steel Pipe: ASTM A53/A53M, Standard Weight (Schedule 40) unless otherwise indicated.

2.2 FASTENERS

- A. General: Unless otherwise indicated, provide Type 304 stainless steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.
- B. Post-Installed Anchors: Torque-controlled expansion anchors.
 - 1. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 stainless steel bolts, ASTM F593, and nuts, ASTM F594.

2.3 MISCELLANEOUS MATERIALS

- A. Shop Primer for Galvanized Steel: Primer formulated for exterior use over zinc-coated metal and compatible with finish paint systems indicated.

2.4 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- D. Form exposed work with accurate angles and surfaces and straight edges.
- E. Weld corners and seams continuously to comply with the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing.
- F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) fasteners unless otherwise indicated. Locate joints where least conspicuous.
- G. Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

2.5 METAL LADDERS

- A. General:
 - 1. Comply with ANSI A14.3.

- B. Steel Ladders:
 - 1. Space siderails 24 inches apart unless otherwise indicated.
 - 2. Siderails: Continuous, 1.66" O.D. galvanized steel pipe.
 - 3. Rungs: 3/4-inch-diameter steel bars.
 - 4. Fit rungs in centerline of siderails; plug-weld and grind smooth on outer rail faces.
 - 5. Provide nonslip surfaces on top of each rung.
 - 6. Galvanize and prime exterior ladders, including brackets.
 - 7. Prime exterior ladders, including brackets and fasteners, with zinc-rich primer.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Field Welding: Comply with the following requirements:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, wood screws, and other connectors.

3.2 INSTALLATION OF MISCELLANEOUS FRAMING AND SUPPORTS

- A. Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.
- B. Anchor shelf angles securely to existing construction with expansion anchors.
- C. Support steel girders on solid grouted masonry, concrete, or steel pipe columns. Secure girders with anchor bolts embedded in grouted masonry or concrete or with bolts through top plates of pipe columns.

3.3 REPAIRS

A. Touchup Painting:

1. Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A780/A780M.

END OF SECTION 055000

SECTION 06 10 53 – MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes materials and installation for miscellaneous carpentry including but not limited to:
1. Framing with dimension lumber.
 2. Rooftop equipment bases and support curbs.
 3. Wood blocking, cants, and nailers.
 4. Wood furring and grounds.
 5. Wood sleepers.
 6. Plywood backing panels.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Factory mark each piece of lumber and plywood with grade stamp of grading agency.
1. Lumber: DOC PS 20 and applicable rules of grading agencies indicated.
 2. Plywood: DOC PS 1 and applicable rules of grading agencies.
- B. Maximum Moisture Content of Lumber: 15 percent for 2-inch nominal thickness or less, 19 percent for more than 2-inch nominal thickness unless otherwise indicated.
- C. Structural Framing and Curbs: Construction or No. 2 grade of any of the following the following species (Note: Grade Specifications on the architectural or structural drawings take precedence over the above):
1. Hem-fir (north); NLGA.
 2. Douglas fir-larch; WCLIB or WWPA.
 3. Southern pine or mixed southern pine; SPIB.
 4. Spruce-pine-fir; NLGA.
 5. Douglas fir-south; WWPA.
 6. Hem-fir; WCLIB or WWPA.
 7. Douglas fir-larch (north); NLGA.
 8. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
- D. Plywood Sheathing: Structural II, CDX, at roofing and exterior locations; or standard sheathing with exterior glue at other locations. (Note: Grade Specifications on the architectural or structural drawings take precedence over the above)
- E. Wood-Preservative Treatment : Provide wood-preservative treatment by pressure process in compliance with AWPA U1, Use Category 3B minimum, marked with treatment quality mark of an approved inspection agency where indicated on the drawings and at the following locations:

1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, parapets, flashing, vapor barriers, and waterproofing.
 2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
 3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
 4. Wood framing members that are less than 18 inches above the ground in crawlspaces or unexcavated areas.
 5. Wood floor plates that are installed over concrete slabs-on-grade.
- F. Fire-Retardant Treatment: Treat items indicated on Drawings. Provide Fire-Retardant treatment by pressure process in compliance with the following standards:
1. Lumber Treatment Standard: Comply with AWPA Standard C20, current edition, and Appendix H of AWPA Use Category System.
 2. Plywood Treatment Standard: Comply with AWPA Standard C27, current edition, and Appendix H of AWPA Use Category System.
- G. Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
1. Steel Items: Comply with ASTM A7 or ASTM A36. Use galvanized steel in exterior locations.
 2. Machine Bolts: Comply with ASTM A307.
 3. Lag Bolts: Comply with Fed Spec FF-B-561.
 4. Screws for Fastening to Metal Framing: ASTM C954, length as recommended by screw manufacturer for material being fastened.
 5. Nails: Sized per IBC minimum requirements. Use common at lumber framing connections, use ring-shanked at plywood sheathing. Use galvanized at exterior locations.
 6. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
 7. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.1 PROCEDURES

- A. Store materials above ground on framework or blocking and cover with protective waterproof covering providing for adequate air circulation. Do not store seasoned or treated materials in damp location.
- B. All work shall be in accordance with applicable codes.
- C. Secure all work as indicated on drawings or as required to achieve first class installation.
- D. Workmanship: Produce joints which are tight, true and well nailed, with members assembled in accordance with the drawings and applicable codes and regulations. Carefully select members. Select individual pieces so that knots and obvious defects will not interfere with the placing of bolts or proper nailing, and will allow making of proper connections. Cut out and discard defects with render a piece unable to serve its intended function. Lumber may be rejected by the Architect whether or not it has been installed, for excessive warp, twist, bow, crook, mildew, fungus or mold, as well as for improper cutting and fitting.

- E. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry accurately to other construction. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- F. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
- G. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the International Building Code or ICC-ES evaluation report for fastener.

END OF SECTION 06 10 53

SECTION 07 54 23 - THERMOPLASTIC POLYOLEFIN (TPO) ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Adhered thermoplastic polyolefin (TPO) roofing system
2. Substrate board
3. Roof insulation
4. Cover board
5. Walkpads

1.2 DEFINITIONS

A. Roofing Terminology: Refer to the following publications for definitions of roofing work related terms in this Section:

1. ASTM D 1079 "Terminology Relating to Roofing and Waterproofing"
2. Glossary in NRCA's "The NRCA Roofing and Waterproofing Manual"
3. Roof Consultants Institute "Glossary of Roofing Terms"

B. Sheet Metal Terminology and Techniques: SMACNA Architectural Sheet Metal Manual

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Roofing Conference: General Contractor shall conduct conference at Project site with Architect, Owner Representative, Building Inspector, and Roofing Subcontractor a minimum of 24 hours before intended start of work.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product. Prior to starting the roofing, the applicator shall submit the manufacturer's specifications and product data covering materials he proposes to apply. Submit evidence of certified applicator status with specifications.

B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work. Include details for all flashing conditions applicable to this project scope of work.

C. Wind Uplift Resistance Submittal: For roofing system, indicating compliance with wind uplift performance requirements.

D. Insulation Fastening Drawings: Provide roof manufacturer's standard drawings showing required quantities, patterns, and types of mechanical fasteners. Indicate which specific patterns are applicable to the wind-resistance requirements for this specific project.

E. Samples for Verification: For the following products:

1. Sheet roofing, of color required.
2. Walkway pads or rolls, of color required.

1.5 INFORMATIONAL SUBMITTALS

- A. Research/Evaluation Reports: For components of roofing system, from ICC-ES.
- B. Provide certification that materials meet the ASTM and Federal Specifications as applicable.
- C. Insulation Fastening/Adhesion Drawings: Provide roof manufacturer's standard drawings showing required quantities, spacing, patterns, and types of mechanical fasteners or adhesive application. Indicate which specific patterns are applicable to the wind-resistance requirements for this specific project.
- D. Sample Warranties: For manufacturer's special warranties.
- E. Applicator's Qualifications: At time of Product Data Submittal, the Contractor shall submit evidence that his company is an approved roofer for the roofing system/material manufacturer providing the roofing products.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.
- B. Warranties: At completion of the project, submit roofing and flashing warranties as specified.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.
- B. The Contractor shall provide a minimum of one week notice to the Architect/Engineer prior to the start of roofing operations so that observation of the work can be scheduled.
- C. Except as modified and supplemented herein, follow the published requirements and written recommendations of the materials manufacturers. Concerning methods of application industry standards apply only when this contract does not address the matter specifically. Industry Standards shall be pre-defined in the "NRCA (National Roofing Contractors Association) Manual of Roofing and Waterproofing".
- D. Record of Work: The Contractor shall keep a record indicating temperature and moisture conditions and the type and location of work being done during each day of roofing operation.

1.8 MATERIAL STORAGE & HANDLING

- A. All materials shall be labeled for ready identification. Labels shall include the name of the manufacturer and product description. Deliver all materials to the site in a dry condition with labels intact.

- B. The Contractor shall store material in accordance with the material manufacturer's recommendation as to weather protection and temperature. All insulation and water sensitive products shall be protected from the elements at all times. Either enclose materials in a trailer or cover with a waterproof tarpaulin to protect from the weather and moisture; the plastic wrappers on the insulation products shall not be used as a means of weather protection. Materials that become wet will be subject to rejection.
- C. Material stored on the roof shall be scattered so as not to apply a concentrated load to the roofing system nor to exceed the load capacity of the roof or the roofing systems. No materials shall be stored on new roofing unless a protective layer and plywood is used.
- D. The Contractor shall use extreme caution and care when transporting materials to and from the roof surface. Provide appropriate barriers and protection to public and property.

1.9 ENVIRONMENTAL REQUIREMENTS

- A. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering existing roofing system or building.
- B. Remove only as much roofing in one day as can be made watertight in the same day.

1.10 PROTECTION

- A. Adjacent surfaces shall be protected from damage, stain, and disfigurement during the demolition and application of roofing materials.
- B. The Contractor shall keep the building interior protected from the elements and debris at all times. Owner will occupy portions of building immediately below reroofing area.

1.11 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.

1. Warranty Period (Base Bid): **15 years** from date of Substantial Completion.

2. Warranty Period (Additive Alternate #1): **20 years** from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers:
 - 1. Johns Manville
 - 2. Firestone Building Products
 - 3. Carlisle Syntec Systems
 - 4. GenFlex Roofing Systems

5. An approved equal manufacturer: **Product data of approved equal manufacturers must be submitted to Architect for review during the Contractor Questions Portion of the bidding process.**

- B. Source Limitations: Obtain components including roof insulation, cover boards, vapor barriers, substrates, fasteners, flashing, walkpads, drains, and other accessories for roofing system from same manufacturer as membrane roofing, **or** from a manufacturer approved by membrane roofing manufacturer (if submitting the latter, submit documentation demonstrating roofing manufacturer's approval along with product data submittal).

2.2 PERFORMANCE REQUIREMENTS

- A. General: Installed roofing membrane system shall remain watertight, and resist specified wind uplift pressures, thermally induced movement, and exposure to weather without failure.
- B. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
- C. Impact Resistance: Roofing system shall resist impact damage when tested according to ASTM D 3746 or ASTM D 4272.
- D. Roofing System Design: Tested by a qualified testing agency to resist the following uplift pressures derived from the ASD method with a safety factor of 2X:
 1. Corner Uplift Pressure: 192.7 lbf/sq. ft.
 - a. Location: 36'-0" in each direction from building corner.
 2. Perimeter Uplift Pressure: 141.4 lbf/sq. ft.
 - a. Location: From roof edge to **33'-0"** inside roof edge.
 3. Field-of-Roof Uplift Pressure: 107.2 lbf/sq. ft.
- E. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
- F. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency. This building is Construction Type IIA; per IBC Table 601 the Roof Construction is required to be 1-hour rated.
- G. Materials containing asbestos or lead will not be permitted.

2.3 TPO ROOFING

- A. Fabric-Reinforced, Fully adhered, TPO Sheet: ASTM D 6878, internally fabric- or scrim-reinforced, uniform, flexible TPO sheet.
 1. Thickness: 60 mils (1.5 mm), nominal.
 2. Exposed Face Color: Tan

2.4 AUXILIARY ROOFING MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing.
 - 1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
 - 2. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the following limits for VOC content:
 - a. Plastic Foam Adhesives: 50 g/L.
 - b. Gypsum Board and Panel Adhesives: 50 g/L.
 - c. Multipurpose Construction Adhesives: 70 g/L.
 - d. Single-Ply Roof Membrane Adhesives: 250 g/L.
 - e. Single-Ply Roof Membrane Sealants: 450 g/L.
 - f. Nonmembrane Roof Sealants: 300 g/L.
 - g. Sealant Primers for Nonporous Substrates: 250 g/L.
 - h. Sealant Primers for Porous Substrates: 775 g/L.
 - i. Other Adhesives and Sealants: 250 g/L.
- B. Sheet Flashing: Manufacturer's standard reinforced or unreinforced TPO sheet flashing, 55 mils thick, minimum, of same color as TPO sheet.
- C. Bonding Adhesive: Manufacturer's standard.
- D. Slip Sheet: Manufacturer's standard, of type and thickness required for application.
- E. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roofing to substrate, and acceptable to roofing system manufacturer.
- F. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, with anchors.
- G. Prefabricated Pipe Flashings: As recommended by roof membrane manufacturer.
- H. Miscellaneous Accessories: Provide metal termination bars, metal battens, pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, cover strips, lap sealants, termination reglets, and other accessories.

2.5 SUBSTRATE BOARDS

- A. Substrate Board: As Required and Approved by Roof System Manufacturer; ASTM C 1278/C 1278M, water-resistant gypsum substrate, 5/8 inch thick, Densdeck or approved equal.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening substrate board to roof deck.

2.6 VAPOR/AIR RETARDER

- A. Self-Adhering Sheet Vapor Retarder: Polyethylene film laminated to layer of butyl rubber adhesive, minimum 30-mil total thickness; maximum permeance rating of 0.1 perm; cold-

applied, with slip-resisting surface and release paper backing. Provide primer when recommended by vapor-retarder manufacturer.

2.7 ROOF INSULATION

- A. General: Preformed roof insulation boards manufactured or approved by TPO roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated, and that produce FM Global-approved roof insulation.
- B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces. R-Value per inch of material thickness: R-5.6 minimum
- C. Provide factory-tapered polyisocyanurate insulation boards fabricated to slope of 1/2 inch per 12 inches (1:24) unless otherwise indicated.
- D. Closed cell extruded polystyrene is **NOT** acceptable.
- E. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.8 INSULATION ACCESSORIES

- A. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roof insulation and cover boards (if acceptable by roof system manufacturer) to substrate, and acceptable to roofing system manufacturer.
- B. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer.
- C. Cover Board: Per Roof System Manufacturer; min. 5/8 inch thick; Densdeck or approved equal.
- D. Protection Mat: Woven or nonwoven polypropylene, polyolefin, or polyester fabric, water permeable and resistant to UV degradation, type and weight as recommended by roofing system manufacturer for application.

2.9 WALKWAYS

- A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads or rolls, approximately 3/16 inch thick and acceptable to roofing system manufacturer. Lay out as configured on roof plans and per manufacturer installation instructions.

PART 3 - EXECUTION

3.1 ROOFING INSTALLATION, GENERAL

- A. Install roofing system according to roofing system manufacturer's written instructions. Proceed with installation only after unsatisfactory conditions have been corrected. Furnish the labor,

administration, materials and equipment to integrate the work into the overall building system so as to provide a leak free roofing.

- B. Examine substrates, areas, and conditions for compliance with requirements affecting performance of roofing system:
 - 1. Verify that curbs, roof openings and penetrations are in place are set and braced and that roof drains are securely clamped in place.
 - 2. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 - 3. Verify that substrate is visibly dry and free of moisture according to manufacturer's approved method.
- C. Except for expedient temporary work, do not roof during inclement weather. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing. Remove all temporary work prior to installing permanent components and materials.
- D. Install roofing and auxiliary materials to tie in to existing vertical surfaces to maintain weathertightness of transition and to not void warranty for existing roofing system.
- E. The workers will not have access to the interior of the building unless it is related to or associated with interior work.
- F. Coordinate with Owner to shut down or cover air-intake equipment in the vicinity of the Work.
- G. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. If roof drains are temporarily blocked or unserviceable due to roofing system removal or partial installation of new roofing system, provide alternative drainage method to remove water and eliminate ponding.
- H. Protect the building, all contents, and surrounding areas from damage, and building occupants from injury during the work. Do not affect the normal conduct of operations of the personnel in the building. Repairs must be made to all damage caused by lack of such protection to the Owner's satisfaction. If they determine that the repairs are beyond the Contractor's ability, then they will have the repairs performed by others and may charge the Contractor for these repairs.
- I. Remove daily all debris from the demolition and installation of the roof. Use an enclosed chute or crane to remove debris.

3.2 RE-ROOF PREPARATION

- A. Remove all existing roofing membrane, surfacing, coverboards, insulation, fasteners, asphalt, pitch, adhesives, substrate boards, etc.
 - 1. Remove an area no larger than can be re-roofed in one day.
- B. Tear out all base flashings, counterflashings, pitch pans, pipe flashing, vents and like components necessary for application of new roofing assembly.
- C. Remove any abandoned curbs and penetrations. Patch all abandoned openings with structural construction matching existing or in a manner approved by Architect.

- D. Clean and remove from substrate sharp projections, dust, debris, moisture, and other substances detrimental to roofing installation in accordance with roofing system manufacturer's written instructions.
- E. Immediately remove all debris from roof surface. Demolished roof system may not be stored on the roof surface.
- F. Raise existing curbs, HVAC units & electrical fixtures (disconnect by licensed craftsmen, if necessary), etc. to remain as necessary to accommodate manufacturer's flashing requirements and additional roof insulation thickness.
- G. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- H. Protection: Protect paving and building walls adjacent to hoist prior to starting work with protective covering. Lap suitable protective covering materials at least 6". Secure protective coverings against wind. Leave protective covering in place for duration of roofing work.

3.3 SUBSTRATE BOARD INSTALLATION

- A. Install substrate board (if required by roofing manufacturer) with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt substrate boards together.
 - 1. Precast Deck: Fully adhered installation per roofing manufacturer instructions. Concrete deck needs to be structurally sound, smooth, clean, dry, and free of contaminants such as grease, animal fats, coal tar and oil-based products.
 - 2. Steel Deck: Fasten substrate board to top flanges of steel deck to resist uplift pressure at corners, perimeter, and field of roof according to roofing system manufacturers' written instructions. Run roofing members perpendicular to steel deck flutes whenever possible.

3.4 BASE-SHEET INSTALLATION

- A. Install lapped base sheet (if required by roofing manufacturer) and fasten to substrate per manufacturer instructions. Enhance fastening rate in perimeter and corner zones in accordance with code and manufacturer requirements (whichever is more stringent).

3.5 VAPOR-RETARDER INSTALLATION

- A. Self-Adhering-Sheet Vapor Retarder (if required by roofing manufacturer): Prime substrate if required by manufacturer. Install self-adhering vapor retarder over area to receive vapor retarder, side and end lapping each each sheet a minimum of 3-1/2 inches and 6 inches, respectively. Seal laps by rolling.
- B. Completely seal vapor retarder at terminations, obstructions, and penetrations to prevent air movement into roofing system.

3.6 INSULATION INSTALLATION

- A. Coordinate installing roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Install tapered insulation under area of roofing to conform to slopes indicated.
- C. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.
- D. Mechanically Fastened Insulation: Install each layer of insulation and secure to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.
 - 1. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof per manufacturer fastener quantities and patterns.
 - 2. Roofing installer shall have manufacturer's fastener requirements on site prior to start of work.
- E. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches in each direction. Loosely butt cover boards together and fasten per manufacturer instructions.
 - 1. Fasten cover boards to resist uplift pressure at corners, perimeter, and field of roof.
- F. Install slip sheet over insulation, cover board, or immediately beneath roofing per manufacturer installation instructions.
- G. Provide insulation to provide a minimum above-roof-deck R-Value of 30.0.

3.7 ADHERED ROOFING INSTALLATION

- A. Adhere roofing over area to receive roofing according to roofing system manufacturer's written instructions. Unroll roofing and allow to relax before retaining.
- B. Start installation of roofing in presence of roofing system manufacturer's technical personnel.
- C. Accurately align roofing, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- D. Bonding Adhesive: Apply to substrate and underside of roofing at rate required by manufacturer, and allow to partially dry before installing roofing. Do not apply to splice area of roofing.
- E. In addition to adhering, mechanically fasten roofing securely at terminations, penetrations, and perimeter of roofing.
- F. Seams: Clean seam areas, overlap roofing, and hot-air weld side and end laps of roofing and sheet flashings according to manufacturer's written instructions, to ensure a watertight seam installation.

1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet.
 2. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
 3. Repair tears, voids, and lapped seams in roofing that do not comply with requirements.
- G. Spread sealant bed over deck-drain flange at roof drains, and securely seal roofing in place with clamping ring.
- H. Cooperate with testing and inspecting agencies engaged or required to perform services for installing roofing system.
- I. Coordinate installing roofing system so insulation and other components of the roofing membrane system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is imminent.
1. Provide tie-offs at end of each day's work to cover exposed roofing membrane sheets and insulation.
 2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.
 3. Remove and discard temporary seals before beginning work on adjoining roofing.

3.8 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories, and adhere to substrates according to roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate, and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.9 WALKWAY INSTALLATION

- A. Flexible Walkways: Install walkway products in locations indicated on roof plan. Heat weld to substrate or adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.10 FIELD QUALITY CONTROL

- A. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
- B. Repair or remove and replace components of roofing system where inspections indicate that they do not comply with specified requirements.

3.11 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period. **Keep installed roofing system components and roof membrane surface clear of debris at all times.** When remaining construction does not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 07 54 23

SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Metal flashings.
 - 2. Copings
 - 3. Formed low-slope roof flashing and trim.
 - 4. Formed high-slope roof flashing and trim.
 - 5. Formed wall flashing and trim.
 - 6. Gutters, Downspouts and Scuppers
 - 7. Manufactured reglets and counterflashings.

1.2 SUBMITTALS

- A. Product Data: For each product indicated. Include manufacturer's material and finish data, installation instructions, and general recommendations for each specified flashing material and fabricated product.
- B. Shop Drawings: Show layouts, profiles, shapes, seams, dimensions, and details for fastening, joining, supporting, and anchoring sheet metal flashing and trim.
- C. Samples: For each color of prefinished sheet metal.
- D. Maintenance data

1.3 QUALITY ASSURANCE

- A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.
- B. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.
- C. Preinstallation Conference: Conduct conference at Project site with architect prior to fabrication of sheet metal.

1.4 WARRANTY

- A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
- B. Finish Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. SPRI Wind Design Standard: Manufacture and install copings and roof edge flashings tested according to SPRI ES-1 and capable of resisting the following design pressure (Zones as defined by ASCE 7-16):
 - 1. Roof Edge Perimeter Vertical Load: 141.4 psf
 - 2. Roof Corners, Vertical Load: 192.7 psf
 - 3. Roof Edge Perimeter, Horizontal Load: 72.9 psf
 - 4. Roof Corners, Horizontal Load: 90.1 psf
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 - 1. Temperature Change: 140 deg F, ambient; 180 deg F, surface

2.2 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that meet those requirements may be incorporated into the Work.

2.3 SHEET METALS

- A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Galvanized Steel Sheet: ASTM A 653, G90 coating designation; structural quality; mill phosphatized where indicated for field painting; minimum thickness of 0.0359 inch (20 gauge) unless otherwise indicated.
- C. Prepainted, Metallic-Coated Steel Sheet: Steel sheet metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A 755/A 755M.
 - 1. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 (Z275) coating designation; structural quality.

2. Exposed Finishes: Apply the following coil coating:
 - a. Factory Prime Coating: Factory-applied, baked-on epoxy primer coat.
 - b. Three-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - c. Siliconized-Polyester Coating: Epoxy primer and silicone-modified, polyester-enamel topcoat; with a dry film thickness of not less than 0.2 mil (0.005 mm) for primer and 0.8 mil (0.02 mm) for topcoat.
 - 1) Color: Match Existing

2.4 COPINGS

- A. Metal Copings: Manufactured coping system consisting of metal coping cap in section lengths not exceeding 12 feet, concealed anchorage; with corner units, end cap units, and concealed splice plates with finish matching coping caps.
 1. Metallic-Coated Steel Sheet Coping Caps: Zinc-coated (galvanized) steel, nominal thickness as required to meet performance requirements
 - a. Surface: Smooth, flat finish.
 - b. Finish: Two-coat fluoropolymer
 - c. Color: As selected by Architect from manufacturer's full range
 2. Corners: Factory mitered and soldered or continuously welded.
 3. Coping-Cap Attachment Method: Snap-on or face leg hooked to continuous cleat with back leg fastener exposed, fabricated from coping-cap material.
 - a. Snap-on Coping Anchor Plates: Concealed, galvanized-steel sheet, 12 inches wide, with integral cleats.
 - b. Face-Leg Cleats: Concealed, continuous galvanized-steel sheet

2.5 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.
- B. Felt Underlayment: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt, nonperforated.
- C. Self-Adhering, High-Temperature Sheet: Minimum 30 mils thick, consisting of a slip-resistant polyethylene- or polypropylene-film top surface laminated to a layer of butyl- or SBS-modified asphalt adhesive, with release-paper backing; specifically designed to withstand high metal temperatures beneath metal roofing. Provide primer according to written recommendations of underlayment manufacturer.
 1. Thermal Stability: ASTM D 1970; stable after testing at 240 deg F or higher.
 2. Low-Temperature Flexibility: ASTM D 1970; passes after testing at minus 20 deg F or lower.

- D. Slip Sheet: Rosin-sized building paper, 3 lb/100 sq. ft. minimum.
- E. Fasteners: Same metal as sheet metal flashing or other noncorrosive metal as recommended by sheet metal fastener, designed to withstand design loads.
 - 1. Exposed Fasteners: Heads matching color of sheet metal by means of plastic caps or factory-applied coating.
 - 2. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws, gasketed, with hex washer head.
 - 3. Blind Fasteners: High-strength aluminum or stainless-steel rivets.
- F. Sealing Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape.
- G. Elastomeric Sealant: ASTM C 920, generic sealant of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight, as recommended by sheet metal manufacturer and fabricator of components being sealed and complying with requirements for joint sealants as specified in Division 7 Section "Joint Sealants".
- H. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant, polyisobutylene plasticized, heavy bodied for hooked-type expansion joints with limited movement, nonhardening, nonskinning, nondrying, and nonmigrating sealant.
- I. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior and interior nonmoving joints, including riveted joints.
- J. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat.
- K. Water Barrier: Ice and Water Shield, 40 mils minimum thickness.
- L. Metal Accessories: Sheet metal clips, straps, anchoring devices, and other similar accessories as required for installation of Work, matching or compatible with material being installed; noncorrosive; size and thickness required for performance.

2.6 REGLETS

- A. Reglets: Units of type, material, and profile indicated, formed to provide secure interlocking of separate reglet and counterflashing pieces, and compatible with flashing indicated with factory-mitered and -welded corners and junctions.
 - 1. Manufacturers:
 - a. Cheney Flashing Company, Inc.
 - b. Fry Reglet Corporation.
 - c. Heckmann Building Products Inc.
 - d. Hickman, W. P. Company.
 - e. Keystone Flashing Company, Inc.
 - f. An Approved Equal.
 - 2. Material: Stainless steel, 0.0187 inch thick.

2.7 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated. Shop fabricate items where practicable. Obtain field measurements for accurate fit before shop fabrication.
- B. Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
 - 1. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
 - 2. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
- C. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.
- D. Expansion Provisions: Where lapped or bayonet-type expansion provisions in the Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant concealed within joints.
- E. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of sheet metal exposed to public view.
- F. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal, in thickness not less than that of metal being secured, as recommended by sheet metal manufacturer.

2.8 SHEET METAL FABRICATIONS

- A. Gauge thicknesses stated below shall be minimum, thicker material may be required as recommended by SMACNA standards.
- B. Copings: Fabricate in minimum 96-inch- (2400-mm-) long, but not exceeding 10-foot- (3-m-) long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and[drill elongated holes for fasteners on] interior leg. Miter corners, seal, and solder or weld watertight.
 - 1. Fabricate copings from the following material:
 - a. Galvanized Steel: 24 gage minimum, but not less than recommended by SMACNA standards.
 - b. Prepainted, Metallic-Coated Steel: 24 gage minimum, but not less than recommended by SMACNA standards.
- C. Counterflashing and Flashing Receivers: Fabricate from the following material:
 - 1. Galvanized Steel: 24 gage minimum, but not less than recommended by SMACNA standards.
 - 2. Prepainted, Metallic-Coated Steel: 24 gage minimum, but not less than recommended by SMACNA standards.

- D. Openings Flashing in Frame Construction: Fabricate head, sill, jamb, and similar flashings to extend 4 inches beyond wall openings. Form head and sill flashing with 2-inch high end dams. Fabricate from the following material:
1. Galvanized Steel: 24 gage minimum, but not less than recommended by SMACNA standards.
 2. Prepainted, Metallic-Coated Steel: 24 gage minimum, but not less than recommended by SMACNA standards.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions under which sheet metal flashing and trim are to be installed and verify that Work may properly commence. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 WORKMANSHIP

A. General:

1. Form sheet metal accurately and to the dimensions and shapes required, finishing molded and broken surfaces with true, sharp, and straight lines and angles and, where intercepting other members, coping to an accurate fit and soldering securely.
2. Unless otherwise specifically permitted by Architect, turn exposed edges back with 1/2" hem.
3. Form, fabricate, and install sheet metal to adequately provide for expansion and contraction in the finished Work.

B. Weatherproofing:

1. Finish watertight and weathertight where so required.
2. Make lock seam work flat and true to line, sweating full of solder.
3. Make lock seams and lap seams, when soldered, at least 1/2" wide.
4. Where lap seams are not soldered, lap according to pitch, but in no case less than 3".
5. Make flat and lap seams in the direction of flow.

C. Joints:

1. Provide 3" splice joint at perimeter trim metal and at counterflashings. Set lap in 2 beads of sealant. Secure with Y2" splice into hem and two pop rivets of same type of metal as flashing material.
2. Join other parts with rivets or sheet metal screws where necessary for strength and stiffness.
3. Provide suitable watertight expansion joints for runs of more than 40' 0", except where closer spacing is indicated on the Drawings or required for proper installation.

D. Fastening:

1. For fastening into brick or concrete use soft metal jacketed pre-drilled drive-pins, 1/4" in diameter.

3.3 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding

rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

1. Torch cutting of sheet metal flashing and trim is not permitted.
- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.
- C. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
- D. Install exposed sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
- E. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
1. Space cleats not more than 12 inches apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.
- F. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of ten feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than one inch deep, filled with mastic sealant concealed within joints.
- G. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.
1. Galvanized or Prepainted, Metallic-Coated Steel: Use stainless-steel fasteners.
 2. Aluminum: Use aluminum or stainless-steel fasteners.
 3. Stainless Steel: Use stainless-steel fasteners.
 4. Fasteners exposed to weather shall be provided with neoprene washers.
- H. Sealed joints: Form nonexpansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards. Fill joint with sealant and form metal to completely conceal sealant.
- I. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pretin edges of sheets to be soldered to a width of 1-1/2 inches except where pretinned surface would show in finished Work.
1. Do not solder prepainted, metallic-coated steel and aluminum sheet.
- J. Separations: Separate metal from noncompatible metal or corrosive substrates by coating concealed surfaces, at locations of contact, with asphalt mastic or other permanent separation as recommended by manufacturer.
1. Underlayment: Where installing aluminum directly on cementitious substrates, install a slip sheet of ice and water shield underlayment.
 2. Bed flanges of Work in a thick coat of roofing cement where required for waterproof performance.

3.4 UNDERLAYMENT INSTALLATION

- A. Felt Underlayment: Install felt underlayment, wrinkle free, using adhesive to minimize use of mechanical fasteners under sheet metal flashing and trim. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches.
- B. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free. Prime substrate if recommended by underlayment manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation; use primer for installing underlayment at low temperatures. Apply in shingle fashion to shed water, with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Roll laps and edges with roller. Cover underlayment within 14 days.

3.5 ROOF FLASHING INSTALLATION

- A. General: Install sheet metal roof flashing and trim to comply with performance requirements and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight. Coordinate installation of roof perimeter flashing with installation of roof drainage system.
- B. Copings: Anchor to resist uplift and outward forces according to recommendations in FMG Loss Prevention Data Sheet 1-49 and as noted under performance requirements.
 - 1. Interlock exterior bottom edge of coping with continuous cleats anchored to substrate at 16-inch max. centers.
 - 2. Anchor interior leg of coping with screw fasteners and washers at 18-inch max. centers.
- C. Parapet Scuppers: Install scuppers where indicated through parapet. Continuously support scupper, set to correct elevation, and seal flanges to interior wall face, over cants or tapered edge strips, and under roofing membrane. Before new scupper openings are cut in existing parapets, Contractor shall mark locations and sizes of intended openings and hold a preinstallation meeting on site with the Owner for approval of scupper openings.
- D. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in receivers and fit tightly to base flashing. Secure in a waterproof manner. Extend counterflashing 4 inches over base flashing. Lap counterflashing joints a minimum of 4 inches and bed with sealant.
- E. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Install flashing as follows:
 - 1. All roof penetrations should be made in accordance with the roofing manufacturer's published penetration details, using only materials approved by the roofing manufacturer.
 - 2. Seal and clamp flashing to pipes penetrating roof.

3.6 WALL FLASHING INSTALLATION

- A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to SMACNA recommendations and as indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.
- B. Openings Flashing in Frame Construction: Install continuous head, sill, jamb, and similar flashings to extend 4 inches beyond wall openings.

3.7 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder.
- C. Clean off excess sealants.
- D. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.

END OF SECTION 07 62 00

SECTION 07 71 29 - MANUFACTURED ROOF EXPANSION JOINTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Flanged bellows-type roof expansion joints.
2. Aluminum roof expansion joints.
3. Preformed foam sealant-type roof expansion joints.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For roof expansion joints.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification data.
- B. Product test reports.
- C. Sample warranty.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Installer of roofing membrane.

1.6 WARRANTY

- A. Special Warranty: Manufacturer and Installer agree to repair or replace roof expansion joints and components that leak, deteriorate beyond normal weathering, or otherwise fail in materials or workmanship within specified warranty period.
1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace roof expansion joints that show evidence of deterioration of factory-applied finishes within specified warranty period.
1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance Rating: Comply with ASTM E1966 or UL 2079; testing by a qualified testing agency to resist the spread of fire and to accommodate building thermal and seismic movements without impairing its ability to resist the passage of fire and hot gases. Identify products with appropriate markings of applicable testing agency.
1. Rating: Not less than fire-resistance rating of the roof assembly.
 2. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.2 FLANGED BELLOWS-TYPE ROOF EXPANSION JOINTS

- A. Flanged Bellows-Type Roof Expansion Joint: Factory-fabricated, continuous, waterproof joint cover consisting of exposed membrane bellows laminated to flexible, closed-cell support foam, and secured along each edge to 3- to 4-inch-wide metal flange.
1. Source Limitations: Obtain flanged bellows-type roof expansion joints approved by roofing manufacturer and that are part of roofing membrane warranty.
 2. Bellows: Neoprene flexible membrane, nominal 60 mils min. thick.
 3. Flanges: Galvanized steel, 0.022 inch min. thick
 4. Corner, Intersection, and Transition Units: Provide factory-fabricated units for corner and joint intersections and horizontal and vertical transitions including those to other building expansion joints.
 5. Accessories: Provide splicing units, adhesives, and other components as recommended by roof-expansion-joint manufacturer for complete installation.
 6. Secondary Seal: Continuous, waterproof membrane within joint and attached to substrate on sides of joint below the primary bellows assembly.
 - a. Drain-Tube Assemblies: Equip secondary seal with drain tubes and seals to direct collected moisture to drain.
 - b. Thermal Insulation: Fill space above secondary seal with manufacturer's standard, factory-installed mineral-fiber insulation; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively, per ASTM E84.
 7. Fire Barrier: Manufacturer's standard fire barrier for fire-resistance-rated expansion joint system.
- B. Materials:
1. Galvanized-Steel Sheet: ASTM A653/A653M, hot-dip zinc-coating designation G90
 2. Neoprene Membrane: Neoprene sheet recommended by TPO manufacturer for resistance to hydrocarbons, non-aromatic solvents, grease, and oil; and as standard with roof-expansion-joint manufacturer for application.

2.3 MISCELLANEOUS MATERIALS

- A. Adhesives: As recommended by roof-expansion-joint manufacturer.

- B. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to withstand design loads.
 - 1. Exposed Fasteners: Gasketed. Use screws with hex washer heads matching color of material being fastened.
- C. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D1187.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Comply with manufacturer's written instructions for handling and installing roof expansion joints.
 - 1. Anchor roof expansion joints securely in place, with provisions for required movement. Use fasteners, protective coatings, sealants, and miscellaneous items as required to complete roof expansion joints.
 - 2. Install roof expansion joints true to line and elevation; and without warping, jogs in alignment, buckling, or tool marks.
 - 3. Provide for linear thermal expansion of roof-expansion-joint materials.
- B. Directional Changes: Install factory-fabricated units at directional changes to provide continuous, uninterrupted, and watertight joints.
- C. Transitions to Other Expansion-Control Joint Assemblies: Coordinate installation of roof expansion joints with other existing exterior expansion-control joint assemblies to result in watertight performance.
- D. Splices: Splice roof expansion joints to provide continuous, uninterrupted, and waterproof joints.
 - 1. Install waterproof splices and prefabricated end dams to prevent leakage of secondary-seal membrane.
- E. Fire Barrier: Install fire barrier as required by manufacturer to provide continuous, uninterrupted fire resistance throughout length of roof expansion joint, including transitions and end joints.
- F. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.

END OF SECTION 07 71 29

SECTION 07 92 00 – JOINT SEALANTS

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes: Sealants and Joint backing as detailed, indicated or required.
- B. Required applications, whether or not specifically shown or noted on the drawings include, but are not necessarily limited to the following:
 - 1. Joints between similar and dissimilar materials.
 - 2. Control and expansion joints in masonry and concrete.
 - 3. Perimeter inside and outside face of joints of exterior wall openings.
 - 4. Perimeter joints of interior door and window frames.
 - 5. Acoustical sealants in gypsum board work.
 - 6. Bedding mastics for thresholds.
 - 7. Pedestrian Pavement joints.
 - 8. High performance security sealants.
 - 9. Other joints as indicated or as required for neat appearance.
- C. See Section 07 84 13 for Through-Penetration Firestop Systems.

1.02 SUBMITTALS

- A. Submit manufacturer's technical product data, surface preparation and installation instructions and samples for each Type of joint sealer under provisions of Division 1 Section "Submittals Procedures".
- B. Include on each product data sheet the locations where the proposed sealant is to be used and product name specified for that location.
- C. Submit samples of sealant colors showing the manufacturer's full range of colors available.
- D. Applicator's qualification documentation as described in this Specifications Section.
- E. Manufacturer's / Supplier's certifications as described in this Specifications Section.
- F. Warranties as described in this Specifications Section.

1.03 MOCK-UP

- A. Provide field mock-up(s) of final color selection(s) if requested by Architect.
 - 1. Locate where directed
 - 2. Approved mock-up may remain as part of the Work.

1.04 PERFORMANCE REQUIREMENTS AND QUALITY ASSURANCE

- A. Provide sealants that establish and maintain watertight and air tight continuous joint without staining or deteriorating joint substrates.
- B. Application shall be done by a Joint Sealant Subcontractor with three years of current and continuous experience. Documentation required.

- C. Use only qualified workmen thoroughly skilled and specially trained in the techniques of caulking, who can demonstrate to the satisfaction of the Architect, their ability to fill joints solidly and neatly.
- D. Certification: Manufacturer/Supplier of sealant and accessory materials shall certify that materials supplied are acceptable and appropriate for the materials, substrates and conditions under which sealants are to be installed.
- E. Materials shall be supplied by a manufacturer who will provide qualified technical assistance at the project site.
- F. Mixing and application of sealing compound shall be in strict accordance with the manufacturer's printed directions.
- G. Obtain each type of joint sealant through only one source from a single manufacturer.

1.05 WARRANTIES

- A. Provide three year written warranty covering materials and installation for sealants and their accessories in accordance with Section 01770.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver sealing compounds to the job in unbroken, sealed containers bearing the manufacturer's mixing directions. Store materials in sealed containers in a dry protected area above the ground or floor.
- B. Protect materials before, during and after installation. Protect the installed work of other trades during installation.
- C. Do not use materials that have been stored for a period of time exceeding the maximum recommended shelf life of the materials.

1.07 JOB CONDITIONS

- A. Do not proceed with the installation of sealants under adverse weather conditions or when joint to be sealed is damp, wet or frozen, or when temperatures or humidity are below or above the manufacturer's recommended limitations for installation or if temperature is below 40 deg F or above 100 deg F. Consult the manufacturer for specific instructions before proceeding.
- B. The joint configuration, the joint surfaces and backing forming the sealant rabbet shall be as detailed in the drawings and specifications or in absence of detailed drawings or specifications, in accordance with the manufacturer's recommendations.
- C. Wherever joint width is affected by ambient temperature variations, do not install elastomeric sealants when joint widths are less than allowed by joint sealer manufacturer.

1.08 DEFINITIONS

- A. The following classifications are referenced in this specification section and are defined per ASTM C920:
 - 1. Type S – A single-component sealant
 - 2. Type M – A multicomponent sealant

3. Grade P – A pourable or selfleveling sealant that has sufficient flow to form a smooth, level surface when applied in a horizontal joint at 40°F.
4. Grade NS – A nonsag or gunnable sealant that permits application in joints on vertical surfaces without sagging or slumping when applied at temperatures between 40 and 122°F.
5. Class 100/50 – A sealant that when tested for adhesion and cohesion under cyclic movement shall withstand an increase of at least 100% and a decrease of at least 50% of the joint width as measured at the time of application.
6. Class 50 – A sealant that when tested for adhesion and cohesion under cyclic movement shall withstand an increase and decrease of at least 50% of the joint width as measured at the time of application.
7. Class 35 - A sealant that when tested for adhesion and cohesion under cyclic movement shall withstand an increase and decrease of at least 35% of the joint width as measured at the time of application.
8. Class 25 - A sealant that when tested for adhesion and cohesion under cyclic movement shall withstand an increase and decrease of at least 25% of the joint width as measured at the time of application.
9. Class 12.5 - A sealant that when tested for adhesion and cohesion under cyclic movement shall withstand an increase and decrease of at least 12.5% of the joint width as measured at the time of application.
10. Use T – A sealant designed for use in joints in pedestrian and vehicular traffic areas such as walkways, plazas, decks, and parking garages.
11. Use NT – A sealant designed for use in joints in nontraffic areas.
12. Use I – A sealant designed for use in joints which are submerged continuously in a liquid.
13. Use M – A sealant tested for use on mortar applications
14. Use G – A sealant tested for use on glass applications
15. Use A – A sealant tested for use on aluminum applications
16. Use O – A sealant tested for use on substrates other than standard substrates

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Basis-of-Design Product: The design for sealants is based on the products listed in Article 2.02 below. Subject to compliance with requirements, provide the named product or an approved comparable product by one of the following manufacturers:

1. Tremco Inc.
2. Dow Corning Corporation.
3. Pecora Corporation.
4. Sonneborn Building Products.
5. Bostik Construction Products
6. General Electric Company
7. Sika Corporation
8. 3M Corporation
9. Hilti Corporation
10. W.R. Meadows Inc.
11. Euclid Chemical
12. Fosroc Inc
13. Metzger McGuire
14. Approved Equal

2.02 MATERIALS

A. Joint Sealers:

- TYPE A Acrylic Latex-Paintable: ASTM C834 Type S Grade NS, single component (non-sag), non-staining, non-bleeding. Tremflex 834 manufactured by Tremco, or AC-20+ Silicone manufactured by Pecora.
- TYPE B Polyurethane Sealant, single component, paintable: ASTM C920, Type S Grade NS, Class 25, Use M, A & O; moisture curing, non-staining, non-bleeding, non-sagging. Dymonic manufactured by Tremco, Vulkem 116 manufactured by Tremco, or Dynatrol I-XL manufactured by Pecora.
- | | |
|---------------------------|----------------------|
| Elongation Capability | 25 percent |
| Service Temperature Range | -20 to 180 degrees F |
| Shore A Hardness Range | 25 |
- TYPE C Polyurethane Sealant, two component, paintable: ASTM C920, Type M Grade NS, Class 50, Use M, A & O; moisture curing, non-staining, non-bleeding, non-sagging. Dymeric-240FC manufactured by Tremco, or Dynatrol II manufactured by Pecora.
- | | |
|---------------------------|----------------------|
| Elongation Capability | 50 percent |
| Service Temperature Range | -20 to 180 degrees F |
| Shore A Hardness Range | 25 to 35 |
- TYPE D Pavement Sealant Polyurethane, single component (self leveling) [FS TT-S-230C, Type I, Class A]. ASTM C920, Type S, Grade P, Class 25, Use T, M, A & O; non-staining. Urexpan NR-201 manufactured by Pecora, or Vulkem 45SSL manufactured by Tremco.
- | | |
|---------------------------|------------|
| Elongation Capability | 25 percent |
| Service Temperature Range | degrees F |
| Shore A Hardness Range | 25 to 50 |
- TYPE DD Pavement Sealant Polyurethane, single component (non-sag) [FS TT-S-230C, Type II, Class A]. ASTM C920, Type S, Grade NS, Class 25, Use T, M, A & O; non-staining. Vulkem 116 manufactured by Tremco.
- | | |
|---------------------------|------------|
| Elongation Capability | 25 percent |
| Service Temperature Range | degrees F |
| Shore A Hardness Range | 15 to 50 |
- TYPE E Pavement Sealant Polyurethane, two component (self leveling) [FS TT-S-230C, Type I, Class A]. ASTM C920, Type M, Grade P, Class 25, Use T, M, & O; non-staining. Urexpan NR-200 manufactured by Pecora, or THC 900/901 manufactured by Tremco.
- | | |
|---------------------------|------------|
| Elongation Capability | 25 percent |
| Service Temperature Range | degrees F |
| Shore A Hardness Range | 25 to 50 |
- TYPE F Silicone Sealant, neutral curing, non-paintable: ASTM 920, Type S Grade NS, Class 25, Use NT, M, G, A & O; low-modulous, one component, non-sagging, non-staining, non-bleeding. Spectrum 1 manufactured by Tremco, 864 NST Silicone manufactured by Pecora, 790 Silicone manufactured by Dow Corning, or Silpruf Sealant Manufactured by GE Silicones.
- | | |
|---------------------------|----------------------|
| Elongation Capability | 50 percent |
| Service Temperature Range | -65 to 300 degrees F |
| Shore A Hardness Range | 15 to 25 |
- TYPE G Silicone Mildew Resistant Sealant, neutral curing, non-paintable: ASTM 920,

Type S Grade NS, Class 50, Use NT, G, A & O; one component, non-sagging, non-staining, fungus and mildew resistant, non-bleeding. 898 NST manufactured by Pecora.

Elongation Capability	50 percent
Service Temperature Range	-60 to 300 degrees F
Shore A Hardness Range	25 to 35

TYPE H Silicone Mildew Resistant Sealant, acetoxycuring, non-paintable: ASTM 920, Type S Grade NS, Class 25, Use NT, G, A & O; one component, non-sagging, non-staining, fungus and mildew resistant, non-bleeding. 786 Mildew Resistant Silicone manufactured by Dow Corning, or Sanitary SCS1700 Sealant Manufactured by GE Silicones, or Tremsil 200 Manufactured by Tremco.

Elongation Capability	25 percent
Service Temperature Range	-40 to 400 degrees F
Shore A Hardness Range	25 to 31

TYPE I Acoustical Sealant for Exposed and Concealed Joints: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834 that effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90. AC-20 FTR Acoustical and Insulation Sealant manufactured by Pecora Corporation, or SHEETROCK Acoustical Sealant manufactured by United States Gypsum Co..

TYPE J Acoustical Sealant for Concealed Joints: Manufacturer's standard, nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce airborne sound transmission. BA-98 manufactured by Pecora Corporation, or Tremco Acoustical Sealant manufactured by Tremco.

TYPE K Butyl Rubber Sealant, paintable: ASTM C1311, U.S. TT-S-001657, Type I single component, solvent release, skinning, non-sagging. Butyl Sealant manufactured by Tremco or Chem-Calk 300 manufactured by Bostik.

Elongation Capability	70 to 100percent
Service Temperature Range	-20 to 150 degrees F
Shore A Hardness Range	24 to 28

B. Colors:

1. As selected by Architect from manufacturers' full range of standard color chart unless specifically indicated otherwise.

C. Accessories

1. Sealant Primer:
 - a. Suitable to substrate surfaces as recommended by the sealant manufacturer.
 - b. Knowledge of whether the primer is staining or non-staining shall be obtained prior to application.
2. Joint Backing:
 - a. Preformed compressible, resilient, non-waxing, non-extruding, non-staining strips (polyethylene foam, urethane foam, butyl) as recommended by the sealant manufacturer for the specific application.
 - b. Backing shall be of sizes and shapes to suit the various conditions and shall be compatible with sealant, primers, and substrates.

3. Bond Breaker:
 - a. As recommended by the sealant manufacturer.
4. Cleaning Agent:
 - a. As recommended by the sealant manufacturer.

PART 3-EXECUTION

3.01 INSPECTION

- A. Surface Condition:
 1. Mask edges if necessary to protect adjoining surfaces and produce a straight finish line.
 2. Joint surfaces to receive a sealant shall be sound, smooth, clean, dry and free of all visible contaminants.
 3. Applications on non-visible coatings or contaminants to surface of rabbet area prior to application of sealant shall be controlled by the Contractor in consultation with the sealant manufacturer.
- B. Joint Size:
 1. Joint size shall be as detailed or as determined by the Architect based on building movement, sealant capabilities and substrate requirements.

3.02 PREPARATION OF SURFACES

- A. Primer:
 1. Thoroughly clean joints and apply primer, if recommended by sealant manufacturer, to dry surfaces.
 2. Apply primer prior to application of joint backing, bond breaker or sealants.
- B. Joint Backing:
 1. In joints where the depth of the joint exceeds the required depth of the sealant, install joint backing to provide backing and uniform depth of sealant.
 2. Joint backing shall be installed with approximately 30% compression. Do not stretch, twist, puncture or tear joint backing. Butt joint backing at intersections.
- C. Bond Breaker Tape:
 1. Install bond breaker tape smoothly at back of joint where joint backing is not required or cannot be installed.
 2. Sealant shall adhere only to the sides and not to the back of the joint to eliminate three-sided adhesion.

3.03 INSTALLATION

- A. Sealant Application:
 1. Perform preparation and installation in accordance with ASTM C1193 and apply sealant in accordance with manufacturer's application manual and instructions, using hand guns or pressure equipment, with proper nozzle size, on clean, dry, properly prepared substrates. Employ only proven installation techniques.

2. Install sealants to depths as recommended by the sealant manufacturer but within the following general limitations, measured at the center (thin) section of the bead:
 - a. For floor slabs and similar joints sealed with elastomeric sealants and subject to traffic and other abrasion and indentation exposures, fill joints to a depth equal to 75% of joint width, but neither more than 0.625" deep nor less than 0.375" deep.
 - b. For normal moving joints sealed with elastomeric sealants, but not subject to traffic, fill joints to a depth equal to 50% of joint width, but neither more than 0.5" deep nor less than 0.25" deep.
 - c. For joints sealed with latex sealants, fill joints to a depth in the range of 75% to 125% of joint width.
3. Force sealant into joint and against sides of joint to make uniform. Avoid pulling of the sealant from the sides. Fill sealant space completely with sealant.
4. Maintain joints free of air pockets, foreign embedded matter, ridges or sags.
5. Where an irregular surface or sensitive joint border exists, the applicator shall apply masking tape at the edge of the joint to ensure joint neatness and protection. Remove tape after sealant is applied.

B. Tooling of Non-Sag Sealants:

1. Tooling is required to ensure firm full contact with the interfaces of the joint.
2. Tool joints to form smooth, uniform beads with slightly concave surfaces. Finish joints shall be straight, uniform, smooth and neatly finished.
3. Remove any excess sealant from adjacent surfaces of joint, leaving the work in a neat, clean condition.
4. Tooling agents should only be used if recommended by the sealant manufacturer.

3.04 CURING, PROTECTION AND CLEANING

- A. Cure sealants and caulking compounds in compliance with manufacturer's instructions and recommendations to obtain high early bond strength, internal cohesive strength and surface durability.
- B. Protect joint sealers during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of acceptance. If damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealers immediately and reseal joints with new materials to produce repaired areas indistinguishable from original work.
- C. Clean off excess compound and smears with cleaning material recommended by the manufacturer of the compound. Leave work in a condition satisfactory to the Architect.

3.05 SEALANT SCHEDULE

Location	Type
Exterior Vertical and Non-Traffic Horizontal Masonry or Concrete joints	B or C
Exterior joints in exterior insulation and finish systems	C or F
Exterior butt joints between metal panels	B or C
Exterior Other Miscellaneous Building Joints	Contact Architect
Flashing	C
Door, Window and Louver Perimeter – Exterior	B or C

END OF SECTION 07 92 00

SECTION 09 90 00 – PAINTING AND HIGH PERFORMANCE COATINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes surface preparation and field painting and high performance coatings using finishes of the following:
1. Exposed exterior items and surfaces.
 2. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.
- B. Paint exposed surfaces, except where the paint and high performance coating schedules indicate that a surface or material is not to be painted or is to remain natural. If the schedules do not specifically mention an item or a surface, paint the item or surface the same as similar adjacent materials or surfaces whether or not schedules indicate colors. If the schedules do not indicate color or finish, the Architect will select from standard colors and finishes available.
- C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.
1. Prefinished items include the following factory-finished components:
 - a. Finished mechanical and electrical equipment.
 - b. Light fixtures.
 2. Concealed surfaces include walls or ceilings in the following generally inaccessible spaces:
 - a. Ceiling plenums
 3. Finished metal surfaces include the following:
 - a. Anodized aluminum.
 - b. Stainless steel.
 - c. Chromium plate.
 - d. Copper.
 4. Operating parts include moving parts of operating equipment and the following:
 - a. Valve and damper operators.
 - b. Linkages.
 - c. Sensing devices.
 - d. Motor and fan shafts.
 5. Labels: Do not paint over Underwriters Laboratories (UL), Factory Mutual (FM), or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

1.2 DEFINITIONS

- A. General: Standard coating terms defined in ASTM D 16 apply to this Section.
1. Flat refers to a lusterless or matte finish with a gloss range below 10 when measured at an 85-degree meter.

2. Eggshell refers to low-sheen finish with a gloss range between 10 and 25 when measured at a 60-degree meter.
3. Satin refers to low/medium-sheen finish with a gloss range between 25 and 35 when measured at a 60-degree meter.
4. Semigloss refers to medium-sheen finish with a gloss range between 30 and 65 when measured at a 60-degree meter.
5. Gloss refers to high-sheen finish with a gloss range above 70 when measured at a 60-degree meter.

1.3 SUBMITTALS

- A. Product Data: For each paint and high performance coating system specified. Include block fillers and primers.
 1. Material List: Provide an inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
 2. Manufacturer's Information: Provide manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material proposed for use.
- B. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available for each type of finish-coat material indicated.
- C. Samples for Verification: Of each color and material to be applied, with texture to simulate actual conditions, on representative Samples of the actual substrate.
 1. Submit Samples on the following substrates for the Architect's review of color and texture only:
 - a. Painted Gypsum board: Provide two 12-inch- square samples of each color and material on hardboard.

1.4 QUALITY ASSURANCE

- A. Applicator Qualifications: Engage an experienced applicator who has completed respective painting / high performance coating system applications similar in material and extent to that indicated for this Project with a record of 3 years of successful in-service performance.
- B. Source Limitations: Obtain block fillers, primers, and undercoat materials for each coating system from the same manufacturer as the finish coats.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the Project Site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label, and the following information:
 1. Product name or title of material.
 2. Product description (generic classification or binder type).
 3. Manufacturer's stock number and date of manufacture.
 4. Contents by volume, for pigment and vehicle constituents.
 5. Thinning instructions.
 6. Application instructions.
 7. Color name and number.
 8. VOC content.
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F, or within ranges specified by the manufacturer. Maintain containers used in storage in a clean condition, free of foreign materials and residue.

1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

1.7 PROJECT CONDITIONS

- A. Do not apply materials when surface and ambient temperatures or relative humidity are outside ranges required by manufacturer.
- B. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50 and 90 deg F.
- C. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 and 95 deg F.
- D. Do not apply paint when the relative humidity exceeds 85 percent; or at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.
- E. For high performance coatings, follow manufacturer's recommended temperature range and other environmental conditions.

1.8 EXTRA MATERIALS

- A. Furnish extra paint materials from the same production run as the materials applied in the quantities described below. Package paint materials in unopened, factory-sealed containers for storage and identify with labels describing contents. Deliver extra materials to the Owner with a transmittal copied to the Architect.
 1. Quantity: Furnish the Owner with extra paint materials in the quantities indicated below:
 - a. Interior Paint: 2 gal. of each color applied.
 - b. Exterior Paint: 2 gal. of each color applied.

PART 2 - PRODUCTS

2.1 PAINT

- A. Basis of Design Product:
 1. The design for this project is based on the products manufactured by Sherwin Williams. See the PAINT SCHEDULE located at the end of this section for specific products.
 2. Subject to compliance with requirements, provide either the named product or a comparable approved equal product by one of the following manufacturers:
 - a. Benjamin Moore & Co.
 - b. Dunn-Edwards
 - c. PPG Pittsburg Paints
 - d. Kelly-Morre Paints
 - e. Devoe Paint Co.

2.2 PAINT MATERIALS, GENERAL

- A. Material Compatibility: Provide block fillers, primers, undercoats, and finish-coat materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

- B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified. Paint-material containers not displaying manufacturer's product identification will not be acceptable. Do not thin in excess of manufacturer's recommendations.
- C. Maximum Volatile Organic Compound (VOC) Content; Interior paints, coatings, and accessories per Colorado's OTC Phase II VOC Rules (5 CCR 1001-25 regulation #21):
 - 1. Primers: 200 grams per liter.
 - 2. Flat paints and coatings: 50 grams per liter.
 - 3. Non-flat paints and coatings: 100 grams per liter.
 - 4. Anti-corrosive and anti-rust coatings: 250 grams per liter.
 - 5. Clear wood finishes: 275 grams per liter.
 - 6. Stains: 250 grams per liter.
- D. Colors: To be selected by the Architect from Manufacturer's full range.
- E. SEE THE ATTACHED SCHEDULE FOR PRODUCT DESCRIPTIONS.

2.3 HIGH-PERFORMANCE COATINGS, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
- B. Material Compatibility:
 - 1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
 - 3. Products shall be of same manufacturer for each coat in a coating system.
- C. Colors: As selected by Architect from manufacturer's full range

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with the Applicator present, under which painting will be performed for compliance with paint application requirements.
 - 1. Do not begin to apply paint / high performance coating until unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
 - 2. Start of painting will be construed as the Applicator's acceptance of surfaces and conditions within a particular area.

3.2 PREPARATION

- A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of the size or weight of the item, provide surface-applied protection before surface preparation and painting.
 - 1. Protect adjacent and underlying surfaces.
 - 2. Correct defects and clean surfaces capable of affecting work of this section.

3. Seal marks that may bleed through surface finishes.
 4. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
- B. Cleaning: Before applying paint, high performance coating, or other surface treatments, clean the substrates of substances that could impair the bond of the various coatings. Remove oil and grease before cleaning.
1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
- C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
1. Provide an appropriated TSP wash product on all galvanized surfaces to be painted.
- D. Materials Preparation: Mix and prepare paint according to manufacturer's written instructions.
1. Maintain containers used in mixing and applying paint and high performance coating in a clean condition, free of foreign materials and residue.
 2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
 3. Use only thinners approved by paint and high performance coating manufacturer and only within recommended limits.

3.3 APPLICATION

- A. General: Apply paint and high-performance coatings according to respective manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
1. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
 2. Provide finish coats that are compatible with primers used.
 3. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before the final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
- B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
1. The number of coats and the film thickness required are the same regardless of application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
 2. Omit primer on metal surfaces that have been shop primed and touchup painted.
 3. If undercoats, stains, or other conditions show through final coat of paint or high performance coating, apply additional coats until paint / coating film is of uniform finish, color, and appearance. Give special attention to ensure edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
 4. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint / high performance coating has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and where application of another coat of paint / coating does not cause the undercoat to lift or lose adhesion.

- C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
 - 1. Brushes: Use brushes best suited for the type of material applied. Use brush of appropriate size for the surface or item being painted.
 - 2. Rollers: Use rollers of carpet, velvet back, or high-pile sheep's wool as recommended by the manufacturer for the material and texture required.
 - 3. Spray Equipment: Use airless spray equipment with orifice size as recommended by the manufacturer for the material and texture required.
- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate. Provide the total dry film thickness of the entire system as recommended by the manufacturer.
- E. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and occupied spaces.
- F. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.
- G. Prime Coats: Before applying finish coats, apply a prime coat of material, as recommended by the manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn through or other defects due to insufficient sealing.
- H. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.
- I. Transparent (Clear) Finishes: Use multiple coats to produce a glass-smooth surface film of even luster. Provide a finish free of laps, runs, cloudiness, color irregularity, brush marks, orange peel, nail holes, or other surface imperfections.
 - 1. Provide semi-gloss finish for final coats.
- J. Stipple Enamel Finish: Roll and redistribute paint to an even and fine texture. Leave no evidence of rolling, such as laps, irregularity in texture, skid marks, or other surface imperfections.
- K. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.4 CLEANING

- A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from the site.
 - 1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping. Be careful not to scratch or damage adjacent finished surfaces.

3.5 PROTECTION

- A. Protect work of other trades, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.

- B. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.
1. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.6 PAINT SCHEDULE (Based on products by Sherwin Williams unless otherwise noted) (# coats)

SUBSTRATE	FINISH	PRIMER	FINISH COATS
Exterior Surfaces:			
Ferrous and Galvanized Metals	Acrylic enamel, Semi-gloss	(1) Pro-Cryl Universal Primer, B66-310 series	(2) Pro Industrial Acrylic Semi-Gloss, B66-650 series
Ferrous and Galvanized Metals, high performance areas	Alkyd enamel, Semi-Gloss	(1) Pro-Cryl Universal Primer, B66-310 series	(2) Pro Industrial Waterbased Alkyd Urethane, Semi-Gloss, B53-1150 series
Steel Exterior Access Ladder	Exterior Grade Powder coating	(1) coat, as required by manufacturer	(1) Fluoropolymer Exterior grade powder AAMA 2605
Wood, Opaque Finish	Acrylic enamel, Satin	(1) Exterior Latex Wood Primer, B42W8041	(2) A-100 Exterior Latex Satin, A82 series
Wood, Transparent Finish		(1) WoodScapes Semi-Transparent Stain, A15T15	(2) WoodScapes Semi-Transparent Stain, A15T15
Concrete Unit Masonry	Acrylic enamel, Satin	(1) Loxon Block Surfacers, A24W200	(2) A-100 Exterior Latex Satin, A82 series
Concrete	Acrylic enamel, Satin	(1) Loxon Concrete & Masonry Primer, A24W8300	(2) A-100 Exterior Latex Satin, A82 series
Plaster	Acrylic enamel, Satin	(1) Loxon Concrete & Masonry Primer, A24W8300	(2) A-100 Exterior Latex Satin, A82 series
Pavement Markings		(1) Hotline Fast Dry Latex	(2) Hotline Fast Dry Latex

END OF SECTION 09 90 00

SECTION 26 41 13 - LIGHTNING PROTECTION FOR STRUCTURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Lightning Protection Design and Installation is a deferred submittal under this project.
- B. The building has an existing lightning protection system that is intended to be partially removed and reinstalled in conjunction with roof replacement work. End product is intended to comply with all current standards.
- C. Objective: To provide safety for the building occupants by preventing damage to building structure caused by lightning.
- D. Work to be performed under final phase of project.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings:
 - 1. Include layouts of the lightning protection system, with details of the components to be used in the installation.
 - 2. Include raceway locations needed for the installation of conductors.
 - 3. Details of air terminals, ground rods, ground rings, conductor supports, splices, and terminations, including concealment requirements.
 - 4. Include roof attachment details, coordinated with roof installation.
 - 5. Calculations required by NFPA 780 for bonding of metal bodies.
- C. Coordination Drawings: Lightning protection system Shop Drawings, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 - 1. Lightning protection cabling attachments to roofing systems and accessories.
 - 2. Lightning protection strike termination device attachment to roofing systems, coordinated with the roofing system manufacturer.
 - 3. Lightning protection system components penetrating roofing and moisture protection systems and system components, coordinated with the roofing system manufacturer.
- D. Qualification Data: For Installer.
- E. Product Certificates: For each type of roof adhesive for attaching the roof-mounted air terminal assemblies, approved by the roofing-material manufacturer.

1.3 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For lightning protection system to include in maintenance manuals.
 - 1. Include the following:

- a. Dimensioned site plan showing dimensioned route of the ground loop conductor and the ground rod locations. Comply with requirements of Section 01 78 39 "Project Record Documents."
- b. A system testing and inspection record, listing the results of inspections and ground resistance tests, as recommended by NFPA 780, Annex D.

B. Completion Certificate:

1. LPI Master Certificate for scope limited to extent of project area of work.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: The system will be designed by a Master Installer/Designer Certified by The Lightning Protection Institute. This Designer will have at least 5 years experience as a designer for projects of this magnitude. The work covered by this section of the specifications consists of furnishing all labor, materials and items of service required for the completion of a functional and unobtrusive lightning protection system approved by the architect, engineer, and in strict accordance with this section of the specifications and the applicable contract drawings.
- B. Standards: The following specifications and standards of the latest issue form a part of this specification:
 1. UL Lightning Protection Standard: Comply with UL 96A requirements for Class I buildings
 2. NFPA Standard for the Installation of Lightning Protection Systems, NFPA 780
 3. UL Lightning Protection Components, UL 96
- C. If any departures from the contract drawings or submittal drawings covered below are deemed necessary by the Contractor, details of such departures and reasons therefore shall be submitted as soon as practical to the architect and engineer for approval.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. UL Lightning Protection Standard: Comply with UL 96A requirements for Class I buildings.
- B. NFPA Standard for the Installation of Lightning Protection Systems, NFPA 780
- C. Lightning Protection Components, Devices, and Accessories: Listed and labeled by a qualified testing agency as complying with UL 96, and marked for intended location and application.

2.2 MATERIALS

- A. All lightning protection materials and components shall comply in weight, size and composition with UL 96 and NFPA-780 lightning protection material requirements for this type of structure.
- B. All materials shall be copper, bronze, or stainless steel. Aluminum components shall be used in locations where system components are mounted to aluminum surfaces to avoid galvanic corrosion of dissimilar metals. Class I materials shall be used on structures not more than 75 feet in height. Class II materials shall be used on structures over 75 feet in height.

2.3 EQUIPMENT

- A. Provide and install a complete lightning protection system in compliance with the specifications

and standards of the most current editions of the National Fire Protection Association's Lightning Protection Standard NFPA-780, and Underwriters Laboratories Lightning Protection Standard UL96-A. The system shall be installed by a lightning protection contractor who is certified by the Lightning Protection Institute.

2.4 MANUFACTURERS

- A. Advanced Lightning Technology, Ltd. (www.altfab.com)
- B. East Coast Lightning Equipment, Inc. (www.ecle.biz)
- C. Independent Protection Company, Inc. (www.ipclp.com)
- D. An approved equal

PART 3 – EXECUTION

3.1 INSTALLATION

- A. Install lightning protection components and systems according to UL 96A.
- B. Install conductors with direct paths from air terminals to ground connections. Avoid bends less than 90 degrees and 8 inches in radius and narrow loops.
- C. As possible, conceal conductors within normal view from exterior locations at grade within 200 feet of building. Comply with requirements for concealed installations in UL 96A.
 - 1. Roof penetrations required for down conductors and connections to structural-steel framework shall be made using listed through-roof fitting and connector assemblies with solid rods and appropriate roof flashings. Use materials approved by the roofing manufacturer for the purpose. Conform to the methods and materials required at roofing penetrations of the lightning protection components to ensure compatibility with the roofing specifications and warranty.
 - 2. Install conduit where necessary to comply with conductor concealment requirements.
 - 3. Air Terminals on Single-Ply Membrane Roofing: Comply with adhesive manufacturer's written instructions.
- D. All equipment shall be installed in a neat, workmanlike manner. The system shall consist of a complete conductor network at the roof and include air terminals, connectors, splicers, bonds, down leads and proper ground terminals.
- E. Coordination: The lightning protection installer will work with other trades to ensure a correct, neat and unobtrusive installation. The roofing contractor will be responsible for sealing and flashing all lightning protection roof penetrations as per the roof manufacturer's recommendations.
- F. Lightning Protection penetrations and/or attachment procedures should be addressed in the roofing section of the specifications. It shall be the responsibility of the lightning protection installer to assure a sound bond to the main water service and to assure interconnection with other ground systems.

3.2 CONNECTIONS

- A. Aboveground concealed connections, and connections in earth or concrete, shall be done by exothermic welds or by high-compression fittings listed for the purpose.
- B. Aboveground exposed connections shall be done using the following types of connectors, listed

and labeled for the purpose: bolted connectors.

- C. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance, except where routed through short lengths of conduit.
 - 1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
 - 2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.

3.3 CORROSION PROTECTION

- A. Do not combine materials that can form an electrolytic couple that will accelerate corrosion in the presence of moisture unless moisture is permanently excluded from junction of such materials.
- B. Use conductors with protective coatings where conditions would cause deterioration or corrosion of conductors.

3.4 FIELD QUALITY CONTROL

- A. Prepare test and inspection reports and certificates.
- B. Upon completion of the installation, the contractor shall furnish the Master Label issued by Underwriters Laboratories, Inc. for this system.

END OF SECTION 26 41 13