FORT LEWIS COLLEGE
COOPER RESIDENCE HALL IMPROVEMENTS
ASBESTOS ABATEMENT

FORT LEWIS COLLEGE
1000 RIM DRIVE
DURANGO, CO 81301

OWNER’S REPRESENTATIVE:

RLH Engineering, Inc.
541 East Garden Drive, Unit S
Windsor, CO 80550
970-686-5695
970-686-5696 FAX

RLH PROJECT NUMBER 18004
April 17, 2018
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ADVERTISEMENT FOR BIDS
Contractor’s Agreement Design/Bid/Build
State of Colorado
Department of Higher Education / Fort Lewis College
Notice Number: DQ # 3226

Notice Status:
Publish Date: April 20, 2018
# Notice Revisions:
Revision Publish Date:

Project No: FL 1701
Project Title: Asbestos Abatement for Cooper Residence Hall Improvements
Estimated Construction Cost: $400,000

Settlement Notices
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 via:
Opportunities to Bid (www.fortlewis.edu/purchasing/Opportunities2bid) and Rocky Mountain Bids (www.bidnetdirect.com).

Project Description
The project consists of removing asbestos containing materials and performing selective demolition of the Cooper Resident Hall Building located on the campus Fort Lewis College, Durango, Colorado. The building is 31,955 SF and has been surveyed and designed for asbestos abatement by RLH Engineering in preparations for remodeling improvements following the work.

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 Abatement Contracting services within the last three (3) years for at least two (2) projects each in excess of $400,000 (hard costs), utilizing the expertise present in their Colorado Office; and

2. Demonstrated specific General Abatement Contracting experience in projects of similar scope and complexity; and

3. Demonstrated bonding capability up to $400,000 for an individual project coincidentally with current and anticipated workloads; provide letter from surety that affirms this capacity.
Firms meeting the minimum requirements may obtain the bidding documents on the website accompanying this advertisement.

Other Information

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

Pre-Bid Meeting

A mandatory pre-Bid meeting will be held on April 30, 2018 at 2:00 p.m. (MDT). Meet at the Physical Plant Services entry lobby on the Fort Lewis College campus. Contractors not present by 2:00 p.m. will not be considered to have met the mandatory pre-submittal requirement and will not be eligible to submit a proposal. Subcontractors are invited to attend.

Schedule/Submission Details

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

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertisement</td>
<td>April 20, 2018</td>
</tr>
<tr>
<td>Mandatory Pre-Bid Conference and Tour</td>
<td>April 30, 2018</td>
</tr>
<tr>
<td>Date Email Questions Due</td>
<td>May 1, 2018</td>
</tr>
<tr>
<td>Date Email Answers Issued</td>
<td>May 3, 2018</td>
</tr>
<tr>
<td>Sealed Bids Due/Public Bid Opening</td>
<td>May 7, 2018</td>
</tr>
<tr>
<td>Notice to Proceed (Projected - submittal process)</td>
<td>May 15, 2018</td>
</tr>
<tr>
<td>Anticipated Construction Start (1st date available)</td>
<td>May 21, 2018</td>
</tr>
<tr>
<td>Anticipated Construction Finish</td>
<td>June 29, 2019</td>
</tr>
</tbody>
</table>

2. Sealed bids are due May 7, 2018 and shall be received no later than 2:00 PM MST at the following address:

Agency: Fort Lewis College  
Contact Name: Wayne Hermes  
Address: Office of the Director of Purchasing  
290 Berndt Hall  
1000 Rim Drive  
Durango, CO 81301-3999

Comments: Late sealed bids will be rejected without consideration. Fort Lewis College and the State of Colorado assume no responsibility for costs related to the preparation of submittals.

3. Each Proposal shall be submitted on the required Proposal Form and must be accompanied by a Bid Bond in an amount not less than 5% of the total Proposal. The Bid Bond may be a (1) cashier’s check or (2) a certified check made payable to Fort Lewis College, or (3) a Bid Bond on State Form SC-6.14. The Bid Bond is submitted as a guaranty that the Bid will be maintained in full force and effect for a period of thirty (30) days after the opening of the Bids for the Project.
4. The Bidder promises, in submitting his Proposal, that if issued a Notice of Award, he will, within the prescribed time, execute the required Agreement, furnish the required Performance Bond, Labor and Material Payment Bond, Insurance Policy and Certificates of Insurance, or forfeit his Proposal Guaranty as Liquidated Damages.

5. Preference shall be given to Colorado resident bidders and for Colorado labor, as required by law. The above schedule is tentative. Responding firms shall be notified of revisions in a timely manner by email. Respondents may elect to verify times and dates by email, but no earlier than 36 hours before the schedule date and time.

**Point of Contact/Clarification**

<table>
<thead>
<tr>
<th>Name:</th>
<th>Mark Gutt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agency:</td>
<td>Fort Lewis College</td>
</tr>
<tr>
<td>Phone:</td>
<td>970-247-7523</td>
</tr>
<tr>
<td>Fax:</td>
<td>970-247-7555</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:gutt_m@fortlewis.edu">gutt_m@fortlewis.edu</a></td>
</tr>
</tbody>
</table>

**This Notice is also available on the web at:**

Opportunities to Bid ([www.fortlewis.edu/purchasing/Opportunitiestobid](http://www.fortlewis.edu/purchasing/Opportunitiestobid)) and
Rocky Mountain Bids ([www.bidnetdirect.com](http://www.bidnetdirect.com)).

Publication Dates: April 20, 2018 through April 30, 2018
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 (if any) 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**

Fort Lewis College  
Office of the Director of Purchasing  
290 Berndt Hall  
1000 Rim Drive  
Durango, CO  81301-3999

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

- Project # FL1701  
- Project Name: Cooper Residence Hall Improvements – Asbestos Abatement  
- Name and Address of Bidder:  
- Date of Opening: April 12, 2016  
- Time of Opening: 2:00 PM

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.

4. **UNAUTHORIZED IMMIGRANTS:** Note that the Special Provisions of the General Conditions of the Contract includes the following language: **PUBLIC CONTRACTS FOR SERVICES** - CRS 8-17.5-101 and **PUBLIC CONTRACTS WITH NATURAL PERSONS** - 24-76.5-101. The Contractor certifies that the Contractor shall comply with the provisions of CRS 8-17.5-101 et seq. The Contractor shall not knowingly employ or contract with an illegal alien to perform work under this contract or enter into a contract with a subcontractor that fails to certify to the Contractor that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under this contract. The Contractor represents, warrants, and agrees that it (i) has verified that it does not employ any illegal aliens, through participation in the Basic Pilot Employment Verification Program administered by the Social Security Administration and Department of Homeland Security, and (ii) otherwise will comply with the requirements of CRS 8-17.5-102(2)(b). The Contractor shall comply with all reasonable requests made in the course of an investigation under CRS 8-17.5-102 by the Colorado Department of Labor and Employment. If the Contractor fails to comply with any requirement of this provision or CRS 8-17.5-101 et
seq., the State may terminate this contract for breach and the Contractor shall be liable for actual and consequential damages to the State.

A Contractor that operates as a sole proprietor hereby swears or affirms under penalty of perjury that the Contractor (i) is a citizen of the United States or otherwise lawfully present in the United States pursuant to federal law, (ii) shall comply with the provisions of CRS 24-76.5-101 et seq, and (iii) shall produce one of the forms of identification required by CRS 24-76.5-103 prior to the effective date of this Contract. Except where exempted by federal law and except as provided in CRS 24-76.5-103(3), a Contractor that receives federal or state funds under this contract must confirm that any individual natural person eighteen years of age or older is lawfully present in the United States pursuant to CRS 24-76.5-103(4) if such individual applies for public benefits provided under this contract.

5. **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.

6. **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.

7. **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.

8. **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.

9. **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.

10. **CDPHE ASBESTOS ENFORCEMENT CASES:** Fort Lewis College will not accept proposals submitted by any certified Colorado General Asbestos Abatement Contractors that are listed on the most current CDPHE Asbestos Enforcement Cases list with a “case finding” of Guilty. Regarding General Abatement Contractors with “pending cases”, Fort Lewis College reserves the right to investigate “pending” cases and accept/reject bids determined to be in the best interest of the College.
The Advertisement for Bids can be located at the web site: /www.colorado.gov/pacific/osa/cdnotices
(Click on the appropriate link [ColoradoVSS or ColoradoBIDS] or on the State Purchasing Office website)
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

BID

Institution/Agency: Fort Lewis College

Project No./Name: FL1701 Cooper Residence Hall Improvements – Asbestos Abatement

Bidder Acknowledges Receipt of Addenda Numbers:

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
<th>If Yes see 3A below</th>
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Bidder Anticipates Services outside the United States or Colorado:

<table>
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<th>No</th>
<th>Yes</th>
<th>If No see 3B below</th>
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Bidder will comply with 80% Colorado Labor on project above $500,000:

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<th>No</th>
<th>Yes</th>
<th>If No see 3B below</th>
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Bidder is a Service-Disabled Veteran Owned Small Business:

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<th>No</th>
<th>Yes</th>
<th>If Yes see 3C below</th>
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Base Bid

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

Bidder’s Time of Completion

<table>
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<th>a. Time Period from Notice to Proceed to Substantial Completion:</th>
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<tr>
<td>b. Time Period from Substantial Completion to Final Acceptance:</td>
<td>10</td>
</tr>
<tr>
<td>c. Total Time of Completion of Entire Project (a + b):</td>
<td>45</td>
</tr>
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</table>

1. BID: Pursuant to the advertisement by the State of Colorado dated 3/25/2016 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.

4. BID GUARANTEE: This Bid is accompanied by the required Bid Guarantee. 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 Director, State Buildings Programs, 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, Insurance Policy and Certificates of Insurance and Affidavit Regarding Unauthorized Immigrants.

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 and Affidavit Regarding Unauthorized Immigrants 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.

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

Phone number:

Name (Print) and Title

Address (including city, state and zip)

Signature
KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the Principal, 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, Certificates of Insurance and Certification and Affidavit Regarding Illegal Aliens, 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

Company Name

Address (including city, state and zip)

Phone number:

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

Attorney-in-Fact

(SIGNATURES)

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.
NOTICE OF AWARD

Date of Notice: _________________________________

Date to be inserted by the Principal Representative

Institution/Agency: Fort Lewis College

Project No./Name: FL1701 / Asbestos Abatement & Selective Demolition for Coopr Resident Hall Improvements

TO:

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 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 and Certificates of Insurance, and Certification and Affidavit Regarding Unauthorized Immigrants 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 ________________________________________   By ________________________________________

Mark Gutt, Construction Manager   Michele Peterson, Assoc. VP Finance & Admin.

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**

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

<table>
<thead>
<tr>
<th>DEPARTMENT ID:</th>
<th>GSAA</th>
</tr>
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<td>CONTRACT ID #:</td>
<td>FL1701 -</td>
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<td>PROJECT #:</td>
<td>FL1701</td>
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<td>PROJECT NAME:</td>
<td>Asbestos Abatement and Selective Demolition for Cooper Resident Hall Improvements</td>
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<td>VENDOR NAME:</td>
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SC-6.21  
Rev. 7/2017
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM

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

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C. Labor and Material Payment Bond (Form SC-6.221) 
D. Insurance Certificates 
E. Certification and Affidavit Regarding Unauthorized Immigrants (State Form UI - 1), (required at contract signing prior to commencing work) 
F. Building Code Compliance Policy: Coordination of Approved Building Codes, Plan Reviews and Building Inspections.
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: GSAA Contract ID #: 2015-138M17- Project #: 2015-138M17

1. PARTIES. THIS AGREEMENT is entered into by and between the STATE OF COLORADO, acting by and through the Board of Trustees for Fort Lewis College, hereinafter referred to as the Principal Representative, and ___ having its offices at ___ 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 liable to pay or reimburse Contractor for any performance hereunder or be bound by any provision hereof prior to the Effective Date.

RECITALS:

WHEREAS, the Principal Representative intends to replace designated west campus water and sewer utility mains and building services 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 In Fund Number 85227, Account Number 7724; and

WHEREAS, this is a phase one waived contract, waiver number 156 Contractors Agreement for Capital Construction Form SC6.21.

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

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.

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 Architect/Engineer in strict accordance with the provisions of the Contract Documents.

ARTICLE 3. TIME OF COMPLETION
The Contractor agrees to Substantially Complete the Project within 1 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 14 calendar days for a total time of completion of the entire Project of 45 calendar days. The Contractor shall perform the Work with due diligence to completion.
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 7.4 for failure to satisfactorily complete the Work within the time periods in Article 3 above.

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 _______DOLLARS AND 00/100* ($00.00*).

ARTICLE 6. CONTRACT DOCUMENTS
The Contract Documents, as enumerated in Article 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.

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.

1. 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

2. MODIFICATION 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

3. 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

4. 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 only to the extent noted.
4.1. 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 to One Thousand and 00/100 Dollars ($1,000.00) 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.

4.2. 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 One Thousand and 00/100 Dollars ($1,000.00) 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.

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: Michele Peterson

With copies to (State Buildings Program (or Delegate) State of Colorado): Mark Gutt

Notice to Contractor:

With copies to:
SIGNATURE APPROVALS:

THE PARTIES HERETO HAVE EXECUTED THIS CONTRACT

*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

THE CONTRACTOR

STATE OF COLORADO, acting by and through:
The Board of Trustees for Fort Lewis College

By: Michele Peterson, Assoc. VP Finance and Admin.

Date: __________________________

*Signature

By __________________________

Name (print)  Title

Date: __________________________

APPROVED
DEPARTMENT OF PERSONNEL & ADMINISTRATION
STATE BUILDINGS PROGRAM
State Architect (or authorized Delegate)

By: Mark Gutt, Construction Mgr.
Planning Design and Construction

Date: __________________________

ALL CONTRACTS MUST BE APPROVED BY THE STATE CONTROLLER:
CRS §24-30-202 requires the State Controller to approve all State Contracts. This Contract is not valid until signed and dated below by the State Controller or delegate. Contractor is not authorized to begin performance until such time. If Contractor begins performing prior thereto, the State of Colorado is not obligated to pay Contactor for such performance or for any goods and/or services provided hereunder.

APPROVED:
STATE OF COLORADO
STATE CONTROLLER'S OFFICE
State Controller (or authorized Delegate)

By: Steven J. Schwartz, VP Finance and Admin.

Date: __________________________
CONTRACTOR’S DESIGN/BID/BUILD AGREEMENT
(STATE FORM SC-6.21)

EXHIBIT B

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 D

INSURANCE CERTIFICATE(S) (attached)
Certification and Affidavit Regarding Unauthorized Immigrants (State Form UI-1), (required at contract signing prior to commencing work)
Building Code Compliance Policy: Coordination of Approved Building Codes, Plan Reviews and Building Inspections (incorporated by reference: https://drive.google.com/file/d/0B94R1zdbWHACdGtIUIViS3ILQk0/view)
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 __ Board of Trustees for Fort Lewis College, (AGENCY OR INSTITUTION) hereinafter called the “Principal Representative”, in the sum of ____________________ _____________ Dollars ($_________________) 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 ___________ _____________, 20___, for the construction of a PROJECT described as

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, this __________ day of , A.D., ____________________ 20____.

(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.
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 __ Board of Trustees for Fort Lewis College, (agency or institution) 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 ($________________ )

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 ________________, 20____ for the construction of a PROJECT described as

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, this _________ day of _______, A.D., 20_____.

(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.
THE GENERAL CONDITIONS OF THE CONTRACTOR’S DESIGN/BID/BUILD (D/B/B) AGREEMENT
(STATE FORM SC-6.23)
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ARTICLE 1. DEFINITIONS

A. CONTRACT DOCUMENTS

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

1. Contractor's Design/Bid/Build Agreement; (SC-6.21);
2. Performance Bond (SC-6.22) and Labor and Material Payment Bond (SC-6.221);
3. General Conditions of the Contractor's Design/Bid/Build Agreement (SC-6.23) and if applicable, Supplementary General Conditions;
4. Detailed Specification Requirements, including all addenda issued prior to the opening of the bids; and,
5. Drawings, including all addenda issued prior to the opening of the bids.
6. Change Orders (SC-6.31) and Amendments (SC-6.0), if any, when properly executed.
7. Authorization to Bid (SBP-6.10)
8. Information for Bidders (SBP-6.12);
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12. Builder's risk insurance certificates of insurance (ACORD 25-S);
13. Liability and Workers' compensation certificates of insurance;
14. Notice to Proceed (Design/Bid/Build) (SBP-6.26);
15. Notice of Approval of Occupancy/Use (SBP-01);
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18. Notice of Partial Final Acceptance (SC-6.27);
19. Notice of Final Acceptance (SBP-6.271);
20. Notice of Partial Contractor's Settlement (SC-7.3);
21. Notice of Contractor's Settlement (SBP-7.31);
22. Application and Certificate for Contractor's Payment (SBP-7.2);
23. 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.

B. DEFINITIONS OF WORDS AND TERMS USED

1. 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

2. 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.
3. CHANGE ORDER. The term “Change Order” means a written order directing the Contractor to make changes in the Work, in accordance with Article 35A, The Value of Changed Work.

4. 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.

5. 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.

6. 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.

7. 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.

8. 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 35D 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 35D.

9. 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.

10. 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.

11. 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 7.5 (Contractor’s Design/Bid/Build Agreement SC-6.21), Notice Identification, or to such other person as either party identifies in writing to receive Notice. Notice by facsimile transmission where proper transmission is evidence shall be adequate where facsimile numbers are included in Article 7.5 (Contractor’s Design/Bid/Build Agreement SC-6.21). 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.

12. 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.
13. OWNER. The term “Owner” shall mean the Principal Representative.
14. PRINCIPAL REPRESENTATIVE. The term “Principal Representative” shall be defined, as provided in § 24-30-1301(11), C.R.S., 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 § 24-30-1301(11), C.R.S., 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.
15. PRODUCT DATA. The term “Product Data” shall mean all submittals in the form of printed manufacturer’s literature, manufacturer’s specifications, and catalog cuts.
16. 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.
17. 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.
18. SAMPLES. The term “Samples” shall mean examples of materials or Work provided to establish the standard by which the Work will be judged.
19. 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).
20. 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).
21. 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.
22. 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.
23. 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.
24. 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 § 24-30-1301, et seq, C.R.S. 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.
25. 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.
26. 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.

27. 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.

28. SUPPLIER. The term “Supplier” shall mean any manufacturer, fabricator, distributor, material man or vendor.

29. SURETY. The term “Surety” shall mean the company providing the labor and material payment and performance bonds for the Contractor as obligor.

30. 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.

31. 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.

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

A. EXECUTION
   The Contractor, within ten (10) days from the date of Notice of Award, will be required to:
   1. Execute the Agreement, State Form SC-6.21;
   2. Furnish fully executed Performance and Labor and Material Payment Bonds on State Forms SC-6.22 and SC-6.221; and
   3. Furnish certificates of insurance evidencing all required insurance on standard Acord forms designed for such purpose.
   4. Furnish certified copies of any insurance policies requested by the Principal Representative.

B. 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.

C. 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:

1. The Agreement (SC-6.21);
2. The Supplementary General Conditions, if any;
3. The General Conditions (SC-6.23); and
4. 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.

D. 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.
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.

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.

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.

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

A. 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.

B. 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 not 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.
C. 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.

D. 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:

1. Compaction testing reports based upon the findings and recommendations of the Principal Representative’s testing consultant;
2. Bearing surfaces of excavations before concrete is placed based upon the findings and recommendations of the Principal Representative’s soils engineering consultant;
3. Reinforcing steel after installation and before concrete is poured;
4. Structural concrete;
5. Laboratory reports on all concrete testing based upon the findings and recommendations of the Principal Representative’s testing consultant;
6. Structural steel during and after erection and prior to its being covered or enclosed;
7. Steel welding; Principal Representative will furnish steel welding inspection consultant/agency if required or necessary for the project;
8. Mechanical and plumbing Work following its installation and prior to its being covered or enclosed;
9. Electrical Work following its installation and prior to its being covered or enclosed; and
10. 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 such Work is covered up without approval or consent of the Architect/Engineer or prior to any building code inspection, it must, if required by the Architect/Engineer, the Principal Representative or the State Buildings Program, be uncovered for examination, at the Contractor’s expense. If such Work is found to be not in accordance with the Contract Documents, the Contractor shall pay such costs, unless he or she shall show that the defect in the Work was caused by another contractor engaged by the Principal Representative. In addition, examination of questioned Work may be ordered, and if so ordered, the Work must be uncovered by the Contractor. If such Work be found in accordance with the Contract Documents, the Contractor shall be reimbursed the cost of examination and replacement.

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.

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.

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

A. SURVEYS

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

B. 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.

C. TAXES
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 § 39-26-703(2)(b), C.R.S., and § 39-26-708, C.R.S.

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.

D. 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.

ARTICLE 10. PROTECTION OF WORK AND PROPERTY
A. 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:

   1. Directly due to errors in the Contract Documents;
   2. Caused by agents or employees of the Principal Representative; and,
   3. 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;

B. 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.

C. 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.

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.

ARTICLE 12. REQUESTS FOR INFORMATION AND SCHEDULES
A. 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.

B. SCHEDULES

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.
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.

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, 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.

**ARTICLE 13. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**

**A. 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.

**B. 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.
C. 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.

D. 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 co-ordinated the information contained within each submittal with the requirements of the Work, the Project and the Contract Documents and prior reviews and approvals.

ARTICLE 14. SAMPLES AND TESTING
A. 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.

B. 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.

C. 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.

D. 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.

ARTICLE 15. SUBCONTRACTS
A. 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 C.R.S. § 24-102-206 (4). (Does not apply to any project that receives federal moneys)

B. 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.

C. 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.

D. 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.

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.

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 therefrom, the Contractor shall pay or satisfy it and pay all costs and reasonable attorney fees incurred by the Principal Representative, in accordance with Article 52C, Indemnification, provided the Contractor was given due Notice of an opportunity to settle.

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.

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.
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.

ARTICLE 21. UTILITIES
A. 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.

B. 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.

C. 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.

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.

ARTICLE 23. TEMPORARY FACILITIES
A. 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.

B. 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.

C. 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.

D. 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.

E. 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.

F. 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.

G. 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.

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.

ARTICLE 25. INSURANCE
A. 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”.

B. 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:

1. Per project general aggregate (CG 25 03 or similar)
2. 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.
3. The policy shall be endorsed to be primary and non-contributory with any insurance maintained by Additional Insureds.
4. A waiver of Subrogation in favor of all Additional Insured parties.
5. Personal Injury Liability
6. Contractual Liability coverage to support indemnification obligation per Article 53.I
7. Explosion, collapse and underground (xcu)

The following exclusionary endorsements are prohibited in the CGL policy:

1. Damage to Work performed by Subcontract/Vendor (CG 22-94 or similar)
2. 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)
3. If applicable to the Work to be performed: Residential or multi-family
4. If applicable to the Work to be performed: Exterior insulation finish systems
5. 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.

C. AUTOMOBILE LIABILITY INSURANCE 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
D. 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.

E. 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 Section B 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.

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F. 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.

G. 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.

H. 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:

1. 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;
2. 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;
3. 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;
4. 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.

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.

ARTICLE 27. LABOR AND WAGES
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. If the Federal Davis-Bacon Act shall be applicable to the Project, as indicated in Article 6B (Design/Bid/Build Agreement SC-6.21), Modification of Article 27, the minimum wage rates to be paid on the Project will be specified in the Contract Documents.

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 52C, 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.

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.

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.

ARTICLE 31. APPLICATIONS FOR PAYMENTS

A. 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 §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 thereunder, shall be subject to correction in the next application rendered following the discovery of any error.

B. 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.

C. 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 § 24-91-103, C.R.S., as amended, and § 38-26-107, C.R.S., as amended, and Article 31D, 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.

D. 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.

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.

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:

1. Defective Work not remedied;
2. Claims filed or reasonable evidence indicating probable filing of claims;
3. Failure of the Contractor to make payments to Subcontractors for material or labor;
4. A reasonable doubt that the Contract can be completed for the balance of the contract price then unpaid;
5. Damage or injury to another contractor or any other person, persons or property except to the extent of coverage by a policy of insurance;
6. 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;
7. Failure to submit a monthly construction schedule;
8. Failure of the Contractor to keep Work progressing in accordance with the time schedule;
9. Failure to keep a superintendent on the Work;
10. Failure to maintain as built drawings of the Work in progress;
11. Unauthorized deviations by the Contractor from the Contract Documents; or
12. 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
The cost shall be made for the amounts thus withheld or nullified on such grounds.

**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.

**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 35C, 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.

**A. THE VALUE OF CHANGED WORK**

1. 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.

2. 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.
3. Except as otherwise provided in Article 35B, Detailed Breakdown, below, the Cost Principles of the Colorado Procurement Rules in effect on the date of this Contract, pursuant to § 24-107-101, C.R.S., as amended, shall govern all Contract changes.

B. 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:

1. 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).
2. 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.
3. 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.
4. 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.
5. Workers’ compensation costs, if not included in labor burden.
6. 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.
7. Overhead and profit, as hereafter specified.
8. Builder’s risk insurance premium costs.
9. Bond premium costs.
10. Testing costs not otherwise excluded by these General Conditions.
11. Subcontract costs.

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

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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 35A1 and 35A2 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 35A, 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.

C. HAZARDOUS MATERIALS

1. 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.

2. 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.

3. 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.

D. 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 form (SC-6.31) in accordance with the procedures described in Article 35A, 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.

E. APPROPRIATION LIMITATIONS - § 24-91-103.6, C.R.S., 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
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.

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 2D, 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 Procurement Code.

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 6A and B, 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 35A2 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 35A, 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, § 24-109-106, C.R.S., 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 35A, 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, § 24-109-201 et seq, C.R.S., as amended. 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 35B, 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 35B, Detailed Breakdown, determined solely with reference to the additional Work, if any, required by the change.

ARTICLE 37. DIFFERING SITE CONDITIONS

A. 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:

1. 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,
2. unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Contract Documents.

The 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.

B. LIMITATIONS

No claim of the Contractor under this clause shall be allowed unless the Contractor has given the Notice required in Article 37A, 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 41A, Notice Of Completion.

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 12B, 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 affect 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.

**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:

1. 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;
2. 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);
3. 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;
4. a party shall review any meeting agenda proposed by a facilitator and endeavor to be informed on the subjects to be discussed;
5. 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;
6. 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;
7. 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;
8. 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;
9. 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,
10. 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 52F, 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 2D, 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.
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.

ARTICLE 41. COMPLETION, FINAL INSPECTION, ACCEPTANCE AND SETTLEMENT

A. 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.

B. 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:

1. Work to be completed, if any; and
2. 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:

1. Work to be completed, if any;
2. Work not in compliance with the Drawings or Specifications, if any; and
3. 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.
C. 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:

1. 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;
2. 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;
3. 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;
4. 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
5. 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 7.4 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.

D. 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.

E. 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:

1. 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.

2. Demonstrated to the operating personnel of the Principal Representative the proper operation and maintenance of all equipment.

3. Delivered to the State of Colorado Department of Personnel & Administration in accordance with C.R.S. § 24-103-210:
   a. 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.

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.

ARTICLE 43   LIENS
Colorado statutes do not provide for any right of lien against public buildings. In lieu thereof, § 38-26-107, C.R.S., 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.

ARTICLE 44. ONE-YEAR GUARANTEE AND SPECIAL GUARANTEES AND WARRANTIES
C. A. 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 therefrom, 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.

B. 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.

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 7A (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.

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, 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 7.4 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 7.4 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 7.4.1 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 7.4.2 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 7.4.2 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 7.4.1 and 7.4.2 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.

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.

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

A. **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.

B. **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:

1. Unsuitable weather;
2. Faulty Workmanship;
3. Improper superintendence or project management;
4. Contractor’s failure to carry out orders or to perform any provision of the Contract Documents;
5. Loss of, or restrictions to, appropriations;
6. 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.
C. 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.

ARTICLE 49. STATE’S RIGHTS TO TERMINATE CONTRACT

A. 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.

B. CONDITIONS AND PROCEDURES

1. 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.

2. 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.

3. 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 48A, 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.

C. 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.

ARTICLE 50. TERMINATION FOR CONVENIENCE OF STATE

A. 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.

B. 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:

1. 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,
2. 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 § 24-107-101, C.R.S., as amended and associated Cost Principles of the Colorado Procurement Rules as in effect on the date of this Contract.

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, §§ 24-109-101, et seq., C.R.S., as amended.

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.

ARTICLE 52. SPECIAL PROVISIONS

A. CONTROLLER’S APPROVAL CRS 24-30-202(1)
This Contract shall not be deemed valid until it has been approved by the Colorado State Controller or designee.

B. FUND AVAILABILITY CRS 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.

C. GOVERNMENTAL IMMUNITY
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, of the Colorado Governmental Immunity Act, CRS §24-10-101 et seq., or the Federal Tort Claims Act, 28 U.S.C. §§1346(b) and 2671 et seq., as applicable now or hereafter amended.

D. INDEPENDENT CONTRACTOR 4 CCR 801-2
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 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. Unemployment insurance benefits will be available to Contractor or a third party. Contractor shall pay when due all applicable employment taxes and income taxes and local head taxes incurred pursuant to this contract. 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 shall (a) provide and keep in force workers’ compensation and unemployment compensation insurance in the amounts required by law, (b) provide proof thereof when requested by the State, and (c) be solely responsible for its acts and those of its employees and agents.

E. COMPLIANCE WITH LAW
Contractor shall strictly 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.

F. CHOICE OF LAW
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. Any provision incorporated herein by reference which purports to negate this or any other Special Provision in whole or in part shall not be valid or enforceable or available in any action at law, whether by way of complaint, defense, or otherwise. Any provision rendered null and void by the operation of this provision shall not invalidate the remainder of this contract, to the extent capable of execution.
G. BOUNDARY ARBITRATION PROHIBITED
The State of Colorado does not agree to binding arbitration by any extra-judicial body or person. Any provision to the contrary in this contract or incorporated herein by reference shall be null and void.

H. SOFTWARE PIRACY PROHIBITION. Governor's Executive Order D 002 00
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.

I. EMPLOYEE FINANCIAL INTEREST/CONFLICT OF INTEREST CRS 24-18-201 & CRS 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's services and Contractor shall not employ any person having such known interests.

J. VENDOR OFFSET CRS 24-30-202(1) & CRS 24-30-202.4
Subject to CRS §24-30-202.4 (3.5), the State Controller may withhold payment under the State’s vendor offset intercept system for debts owed to State agencies for: (a) unpaid child support debts or child support arrearages; (b) unpaid balances of tax, accrued interest, or other charges specified in CRS §39-21-101, et seq.; (c) unpaid loans due to the Student Loan Division of the Department of Higher Education; (d) amounts required to be paid to the Unemployment Compensation Fund; and (e) other unpaid debts owing to the State as a result of final agency determination or judicial action.

K. PUBLIC CONTRACTS FOR SERVICES. CRS §8-17.5-101.
[Not Applicable to agreements relating to the offer, issuance, or sale of securities, investment advisory services or fund management services, sponsored projects, intergovernmental agreements, or information technology services or products and services] Contractor certifies, warrants, and agrees that it does not knowingly employ or contract with an illegal alien who will perform Work under this contract and will confirm the employment eligibility of all employees who are newly hired for employment in the United States to perform Work under this contract, through participation in the E-Verify Program or the Department program established pursuant to CRS §8-17.5-102(5)(c). Contractor shall not knowingly employ or contract with an illegal alien to perform Work under this contract or enter into a contract with a subcontractor that fails to certify to Contractor that the subcontractor shall not knowingly employ or contract with an illegal alien to perform Work under this contract. Contractor (a) shall not use E-Verify Program or Department program procedures to undertake pre-employment screening of job applicants while this contract is being performed, (b) shall notify the subcontractor and the contracting State agency within three days if Contractor has actual knowledge that a subcontractor is employing or contracting with an illegal alien for Work under this contract, (c) shall terminate the subcontract if a subcontractor does not stop employing or contracting with the illegal alien within three days of receiving the notice, and (d) shall comply with reasonable requests made in the course of an investigation, undertaken pursuant to CRS §8-17.5-102(5), by the Colorado Department of Labor and Employment. If Contractor participates in the Department program, Contractor shall deliver to the contracting State agency, Institution of Higher Education or political subdivision a written, notarized affirmation, affirming that Contractor has examined the legal Work status of such employee, and shall comply with all of the other requirements of the Department program. If Contractor fails to comply with any requirement of this provision or CRS §8-17.5-101 et seq., the contracting State agency, institution of higher education or political subdivision may terminate this contract for breach and, if so terminated, Contractor shall be liable for damages.
L. PUBLIC CONTRACTS WITH NATURAL PERSONS. CRS §24-76.5-101. Contractor, if a natural person eighteen (18) years of age or older, hereby swears and affirms under penalty of perjury that he or she (a) is a citizen or otherwise lawfully present in the United States pursuant to federal law, (b) shall comply with the provisions of CRS §24-76.5-101 et seq., and (c) has produced one form of identification required by CRS §24-76.5-103 prior to the effective date of this contract.

ARTICLE 53. MISCELLANEOUS PROVISIONS
A. CONSTRUCTION OF LANGUAGE
The language used in these General Conditions shall be construed as a whole according to its plain meaning, and not strictly for or against any party. Such construction shall, however, construe language to interpret the intent of the parties giving due consideration to the order of precedence noted in Article 2C, Intent of Documents.

B. SEVERABILITY
Provided this Agreement can be executed and performance of the obligations of the Parties accomplished within its intent, the provisions hereof are severable and any provision that is declared invalid or becomes inoperable for any reason shall not affect the validity of any other provision hereof, provided that the Parties can continue to perform their obligations under this Agreement in accordance with its intent.

C. SECTION HEADINGS
The captions and headings in this Agreement are for convenience of reference only, and shall not be used to interpret, define, or limit its provisions.

D. AUTHORITY
Each person executing the Agreement and its Exhibits in a representative capacity expressly represents and warrants that he or she has been duly authorized by one of the parties to execute the Agreement and has authority to bind said party to the terms and conditions hereof.

E. INTEGRATION OF UNDERSTANDING
This Contract is intended as the complete integration of all understandings between the parties and supersedes all prior negotiations, representations, or agreements, whether written or oral. No prior or contemporaneous addition, deletion, or other amendment hereto shall have any force or affect whatsoever, unless embodied herein in writing. No subsequent novation, renewal, addition, deletion, or other amendment hereto shall have any force or effect unless embodied in a written Change Order or Amendment to this Contract.

F. VENUE
All suits or actions related to this Agreement shall be filed and proceedings held in the State of Colorado and exclusive venue shall be in the City and County of Denver.

G. NO THIRD PARTY BENEFICIARIES
Enforcement of this Agreement 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 the Contract, and do not create any rights for such third parties.

H. WAIVER
Waiver of any breach under a term, provision, or requirement of this Agreement, or any right or remedy hereunder, whether explicitly or by lack of enforcement, shall not be construed or deemed as a waiver of any subsequent breach of such term, provision or requirement, or of any other term, provision, or requirement.
I. INDEMNIFICATION
Contractor shall indemnify, save, and hold harmless the State, its employees and agents, against any and all claims, damages, liability and court awards including costs, expenses, and attorney fees, to the extent such claims are caused by any negligent act or omission of the Contractor, its employees, agents, subcontractors or assignees pursuant to the terms of this Contract, but not to the extent such claims are caused by any negligent act or omission of, or breach of contract by, the State, its employees, agents, other contractors or assignees, or other parties not under control of or responsible to the Contractor.

J. STATEWIDE CONTRACT MANAGEMENT SYSTEM
If the maximum amount payable to Contractor under this Contract is $100,000 or greater, either on the Effective Date or at anytime thereafter, this section shall apply.

Contractor agrees to be governed, and to abide, by the provisions of CRS 24-102-205, 24-102-206, 24-103-601, 24-103.5-101, 24-105-101, and 24-105-102 concerning the monitoring of vendor performance on state contracts and inclusion of contract performance information in a statewide contract management system.

Contractor’s performance shall be subject to Evaluation and Review in accordance with the terms and conditions of this Contract, State law, including C.R.S 24-103.5-101, and State Fiscal Rules, Policies and Guidance. Evaluation and Review of Contractor’s performance shall be part of the normal contract administration process and Contractor’s performance will be systematically recorded in the statewide Contract Management System. Areas of Evaluation and Review shall include, but shall not be limited to quality, cost and timeliness. Collection of information relevant to the performance of Contractor’s obligations under this Contract shall be determined by the specific requirements of such obligations and shall include factors tailored to match the requirements of Contractor’s obligations. Such performance information shall be entered into the statewide Contract Management System at intervals established herein and a final Evaluation, Review and Rating shall be rendered within 30 days of the end of the Contract term. Contractor shall be notified following each performance Evaluation and Review, and shall address or correct any identified problem in a timely manner and maintain Work progress.

Should the final performance Evaluation and Review determine that Contractor demonstrated a gross failure to meet the performance measures established hereunder, the Executive Director of the Colorado Department of Personnel and Administration (Executive Director), upon request by the Principal Representative, and showing of good cause, may debar Contractor and prohibit Contractor from bidding on future contracts. Contractor may contest the final Evaluation, Review and Rating by: (a) filing rebuttal statements, which may result in either removal or correction of the evaluation (CRS 24-105-102(6)), or (b) under CRS 24-105-102(6), exercising the debarment protest and appeal rights provided in CRS 24-109-106, 107, 201 or 202, which may result in the reversal of the debarment and reinstatement of Contractor, by the Executive Director, upon a showing of good cause.

K. CORA DISCLOSURE
To the extent not prohibited by federal law, this Agreement and the performance measures and standards under CRS §24-103.5-101, if any, are subject to public release through the Colorado Open Records Act, CRS §24-72-101, et seq.
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

NOTICE TO PROCEED (DESIGN/BID/BUILD CONTRACT)

Date of Notice: ____________________________________________
Date to be inserted by the Principal Representative

Date/Description of Contract Documents: ____________________________________________

Institution/Agency: Fort Lewis College

Project No./Name: FL1701 Asbestos Abatement for Cooper Residence Hall Improvements

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, and Affidavit Regarding Unauthorized Immigrants 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 completion date of the Project is ______ (M/D/YYYY).

By ____________________________________________  By ____________________________
State Buildings Programs  Principal Representative
(or Authorized Delegate)  (Institution or Agency)
Mark Gutt, Construction Manager  Michele Peterson, Director of Budgets

When completely executed, this form is to be sent by certified mail to the Contractor by the Principal Representative; or by any other means to which the parties agree.
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

NOTICE OF SUBSTANTIAL COMPLETION

Date of Substantial Completion: ___________________________

Date to be inserted by the Principal Representative

Institution/Agency: Fort Lewis College

Project No./Name: FL1701 Asbestos Abatement for Cooper Residence Hall Improvements

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.

RMBA - Architects Date Contractor Date

State Buildings Programs Date Principal Representative Date
Mark Gutt, Construction Manager
Michele Peterson, Director of Budgets
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 Programs.
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

NOTICE OF FINAL ACCEPTANCE

Date of Notice of Acceptance: ________________________________

Institution/Agency: Fort Lewis College
Project No./Name: FL1701 Asbestos Abatement for Cooper Residence Hall Improvements

TO:

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

__________________________________________  ________________________________
State Buildings Programs  Date  Principal Representative  Date
Mark Gutt, Construction Manager  Michele Peterson, Director of Budgets

*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 PROGRAMS

NOTICE OF CONTRACTOR’S SETTLEMENT

Institution/Agency: Fort Lewis College
Notice Number:
Project No./Title: FL1701 Asbestos Abatement for Cooper Residence Hall Improvements

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: Tim Erickson, Project Manager
Approval Date:
Agency: Fort Lewis College
Phone: 970-247-7084
Fax: 970-247-7555
Email: Erickson_t@fortlewis.edu

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 PROGRAMS

CERTIFICATION AND AFFIDAVIT REGARDING UNAUTHORIZED IMMIGRANTS

Institution/Agency:  Fort Lewis College
Project No./Name:  FL1701  Asbestos Abatement for Cooper Residence Hall Improvements

A. CERTIFICATION STATEMENT  CRS 8-17.5-101 & 102 (HB 06-1343, SB 08-193)

The Vendor, whose name and signature appear below, certifies and agrees as follows:

1. The Vendor shall comply with the provisions of CRS 8-17.5-101 et seq. The Vendor shall not knowingly employ or contract with an unauthorized immigrant to perform work for the State or enter into a contract with a subcontractor that knowingly employs or contracts with an unauthorized immigrant.

2. The Vendor certifies that it does not now knowingly employ or contract with and unauthorized immigrant who will perform work under this contract, and that it will participate in either (i) the “E-Verify Program”, jointly administered by the United States Department of Homeland Security and the Social Security Administration, or (ii) the “Department Program” administered by the Colorado Department of Labor and Employment in order to confirm the employment eligibility of all employees who are newly hired to perform work under this contract.

3. The Vendor shall comply with all reasonable requests made in the course of an investigation under CRS 8-17.5-102 by the Colorado Department of Labor and Employment. If the Vendor fails to comply with any requirement of this provision or CRS 8-17.5-101 et seq., the State may terminate work for breach and the Vendor shall be liable for damages to the State.

B. AFFIDAVIT  CRS 24-76.5-101 (HB 06S-1023)

4. If the Vendor is a sole proprietor, the undersigned hereby swears or affirms under penalty of perjury under the laws of the State of Colorado that (check one):

- [ ] I am a United States citizen, or

- [ ] I am a Permanent Resident of the United States, or

- [ ] I am lawfully present in the United States pursuant to Federal law.

I understand that this sworn statement is required by law because I am a sole proprietor entering into a contract to perform work for the State of Colorado. I understand that state law requires me to provide proof that I am lawfully present in the United States prior to starting work for the State. I further acknowledge that I will comply with the requirements of CRS 24-76.5-101 et seq. and will produce the required form of identification prior to starting work. I acknowledge that making a false, fictitious, or fraudulent statement or representation in this sworn affidavit is punishable under the criminal laws of Colorado as perjury in the second degree under CRS 18-8-503 and it shall constitute a separate criminal offense each time a public benefit is fraudulently received.

CERTIFIED and AGREED to this _____ day of ______________, 20__.

VENDOR:

______________________________
Vendor Full Legal Name

______________________________
Signature of Authorized Representative

______________________________
Title

State Form UI-1
Issued 7/2008
SECTION 01013 - SUMMARY OF THE WORK - ASBESTOS ABATEMENT

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings, general provisions of Contract, including General Conditions, Supplementary General Conditions, and other Division-1 Specification Sections, apply to work of this Section.

PROJECT/WORK IDENTIFICATION:

General: The Project name is Fort Lewis College Cooper Residence Hall Asbestos Abatement, as shown on Contract Documents prepared by Owner's Representative, RLH Engineering, Inc. Drawings and Specifications are dated April 17, 2018.

SCOPE OF WORK:

The Contractor shall provide pressure differential systems and decontamination units, contain the Work Area, all labor, materials, equipment, insurance, bonds and permits to complete the Project as specified in the Contract Documents. Drawing Sheets supplied provide additional information about the limits of the Work Areas and required procedures. The Contractor shall be responsible to verify the accuracy of material quantities to be included in his bid.

Base Bid:

1. The Work includes the removal and disposal of approximately 19,460 SF of asbestos containing floor tile and mastic to be removed from concrete substrate. The Contractor shall remove floor tile and mastic to a clean concrete substrate. The Contractor shall final wash the floor with soap and water to remove any mastic remover residue. Removal shall be performed in a full containment, as described in Section 02081.

2. The Work includes the removal and disposal of approximately 5,830 SF of asbestos containing mastic beneath contaminated carpet to be removed from a concrete substrate. The removal also includes any associated non-ACM glues (yellow and green in color) beneath the carpet. The Contractor shall remove contaminated carpet, ACM mastic, and non-ACM glue to a clean concrete substrate. The Contractor shall final wash the floor with soap and water to remove any mastic remover residue. Removal shall be performed in a full containment, as described in Section 02081.

3. The Work includes the removal and disposal of approximately 1,365 SF of sheet vinyl flooring and asbestos containing mastic to be removed from a concrete. The Contractor shall remove contaminated carpet, floor tile, and mastic to a clean concrete substrate. The Contractor shall final wash the floor with soap and water to remove any mastic remover residue. The Contractor may dispose of the carpet as non-ACM so long as the tile remains substantially intact during carpet removal. Removal shall be performed in a full containment, as described in Section 02081.
4. The Work includes the removal and disposal of CMU block walls with 1,390 SF of asbestos containing block filler. Removal shall be performed in a full containment, as described in Section 02081.

5. The Work includes the selective removal and disposal of thermostats and data outlets from CMU block walls with asbestos containing block filler.

6. The Work includes the removal of various building components (electrical panels, fire extinguisher cabinets, drinking fountains) and selective demolition of cmu block with asbestos containing block filler (approx. 210 SF). Remove components and CMU block to extents shown on Drawings.

7. The Work includes the selective removal of CMU block with asbestos containing block filler (approx. 12 SF)to support the installation of single-gang outlet boxes. Refer to drawings for locations and extent of removal.

8. The Work includes the removal and disposal of 15,035 SF of drywall with asbestos containing texture. Drywall framing shall remain or be removed, as noted on the Drawings. Remove and dispose of all plumbing fixtures, Plumbing supply lines shall be protected in place.
   a. Toilets removal to include flush valves, nipple to remain
   b. Sinks to be removed back to wall stops, wall stops to remain
   c. Shower head, faucet trim, and pan to be removed,

9. The Work includes the removal and disposal of 960 asbestos containing mudded pipe fittings.

10. The Work includes the removal and disposal of 16 (300 SF) asbestos containing transite panels.

11. The Work includes the complete or partial demolition of non-ACM wardrobes in Rooms 718, 719, 720, 722, 723, 724, 726, 728, 729, 821, 822, 823, 824, 827 and 830. Refer to Drawings for extents of demolition.

Sequence of Work

The Owner, Contractor, and Owner's Representative shall perform various activities to complete this Project. The general Sequence of Work is stated below, and shall be repeated as necessary for each Work Area. The sequence may be altered with written approval by the Owner's Representative.

1. The Contractor shall prepare and submit all notices, permit applications, and project submittals prior to the start of the Work. If required by regulation, a Project Design (as described in AQCC Regulation No. 8 Part B Asbestos, III.C.) shall be developed by the Contractor and submitted as part of the project submittals.
2. The Contractor shall mobilize on-site, post abatement Permit and Project Design (if applicable), and construct all critical barriers applicable to the Work area. Surfaces on and around critical barrier locations shall be pre-cleaned to accommodate adhesion of barriers and duct tape. If temporary partitions or framing are required, these shall be installed prior to critical barrier installation.

3. The Contractor shall establish negative pressure in the Work area by installing and operating negative pressure differential equipment.

4. Perform non-asbestos demolition after critical barriers and negative air pressure have been established, including OSHA-regulated demolition of ‘trace’ asbestos (1% or less asbestos). Establish additional critical barriers as required upon completion of non-asbestos demolition.

5. The Contractor shall build in place all temporary enclosures required for personnel decontamination unit and waste loadout unit. A viewport (12”x 12” minimum) shall be installed in a location so that activities inside the work area can be viewed from outside the work area.

6. The Contractor shall perform pre-cleaning of surfaces where applicable and inspect those areas with the Owner’s Representative.

7. The Contractor shall cover all fixed objects, as specified, where applicable.

8. The Contractor shall construct all containment barriers and engineering controls as specified and inspect those areas with the Owner's Representative. If permanent enclosures are required, install these enclosures at this time.

9. The Contractor shall begin abatement by removing and disposing of all non-ACM items, including fiberglass insulation on pipes, as asbestos contaminated waste. Items identified for decontamination and return to the Owner shall be removed at this time.

10. The Contractor shall complete asbestos abatement and Project Decontamination as specified.

11. The Contractor and Owner's Representative shall visually inspect all Work Area surfaces (Specification Section 01711).

12. The Contractor shall apply lockdown encapsulant to all Work area surfaces, as specified in Section 09805 of the Specification. After lockdown encapsulant has sufficiently dried, remove primary poly barrier and clean all surfaces. Critical barriers, Negative Air Pressure Differential Equipment, and Decontamination Units shall all remain in place and remain functional.

13. The Contractor and Owner's Representative shall visually inspect all surfaces in the work area.

14. The Owner's Representative shall collect final clearance air samples as specified in Section 01714 of the Specification.
15. After acceptable clearance samples, the Contractor shall remove all temporary enclosures.

16. The Work includes the completion of a Post Abatement walk thru to identify incomplete and/or corrective action work. The Post Abatement inspection shall include representatives of the Contractor, Owner and Owner’s Representative to identify the punch list and schedule for completion.

17. Contractor shall complete punch list work and demobilize. Contractor shall be responsible for completing punch list items one (1) week after completion of each individual phase.

Completion Schedule:

The Contractor shall have access to the Work Areas to perform work of this Contract as specified below. Deviations from the specified schedule must be approved by the Owner’s Representative at least 48 hours in advance in writing. Work of this Project shall be coordinated with renovation and education activities being conducted by the Owner. The Contractor shall have access to the project site from 8:00 a.m. to 5:00 p.m. Monday-Friday. Access for weekend or after-hours work shall be requested and arranged 48 hours in advance.

Cooper Residence Hall

Phase I

Start: May 21, 2018
Complete: June 13, 2018

Phase II

Start: June 11, 2018
Complete: June 29, 2018

Liquidated Damages for Late Completion

Failure to complete the Work within the specified schedule shall entitle the Owner to collect from the Contractor liquidated damages of one-thousand dollars ($1,000.00) per calendar day for late completion per phase. In addition, the Contractor may be held responsible to Fort Lewis College for Owner’s Representative fees beyond the original dates of completion.

The liquidated damages specified above are considered separate from costs associated with any final clearance air tests that fail to meet the release criteria specified in Section 01714.

The Work includes the removal of asbestos-containing materials according to the requirements of the following specification sections in the sequence indicated:
General and Administrative Requirements are set forth in the following specification sections:

01013 Summary of the Work - Asbestos Abatement
01043 Project Coordination - Asbestos Abatement
01091 Definitions and Standards - Asbestos Abatement

Abatement Work requirements are set forth in the following specification sections, listed here according to the sequence of the Work:

01092 Codes, Regulations and Standards - Asbestos Abatement sets forth governmental regulations and industry standards which are included and incorporated herein by reference and made a part of the specification. This Section also sets forth those notices and permits which are known to the Owner and which either must be applied for and received, or which must be given to governmental agencies before start of Work.

01503 Temporary Facilities - Asbestos Abatement sets forth the support facilities needed such as electrical and plumbing connections for the decontamination unit.

01526 Temporary Enclosures details the requirements for the sheet plastic barriers isolating the Work Area from the balance of the building.

01410 Test Laboratory Services describes air monitoring by Owner so that the building beyond the Work Area will remain uncontaminated. Air monitoring to determine required respiratory protection is the responsibility of the Contractor.

01563 Decontamination Units explains the setup and operation of the personnel and material decontamination units.

01513 Temporary Pressure Differential and Air Circulation System sets forth the procedures to set up pressure differential isolation and ventilation of the Work Area.

01560 Worker Protection - Asbestos Abatement describes the equipment and procedures for protecting workers against asbestos contamination and other workplace hazards except for respiratory protection.
01562 Respiratory Protection sets forth the procedures and equipment required for adequate protection against inhalation of airborne asbestos fibers.

Asbestos Removal Work Procedures are described in the following specification sections:

02062 Non-Asbestos Demolition
02081 Removal of Asbestos-Containing Materials
02084 Disposal of Asbestos-Containing Waste Materials
09805 Encapsulation of Abated Surfaces

Decontamination of the Work Area after completion of abatement work is described in the following sections:
01711 Project Decontamination describes the sequence of cleaning and decontamination procedures to be followed during removal of the sheet plastic barriers isolating a Work Area.

01714 Work Area Clearance describes the analytical methods used to determine if the Work Area has been successfully cleaned of contamination.

PLAN OF ACTION:
Submit a detailed plan of the procedures proposed for use in complying with the requirements of this specification. Include in the plan the location and layout of decontamination areas, the sequencing of asbestos work, methods to be used to assure the safety of building occupants and visitors to the site, and a disposal plan including location of approved disposal site. If a Project Design is required for the project, the Plan of Action shall include the information described above and the information required by regulation for a complete Project Design.

INSPECTION:
Prior to commencement of Work, inspect areas in which Work will be performed. Prepare a listing of damage to structure, surfaces, and equipment or of surrounding properties which could be misconstrued as damage resulting from the Work. Photograph or videotape as necessary to document existing conditions. Submit to Owner’s Representative prior to starting Work.

STOP WORK:
If the Owner, or the Owner’s Representative, presents a written stop work order immediately stop all Work. Do not recommence Work until authorized in writing by Owner’s Representative.

ASBESTOS-CONTAINING MATERIALS:
The following asbestos-containing materials are known to be present at the Work site. If any other materials are found, which are suspected of containing asbestos, notify Owner’s Representative immediately.

<table>
<thead>
<tr>
<th>Item</th>
<th>Asbestos Content</th>
<th>Other Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor tile</td>
<td>10% Chrysotile</td>
<td>90% Non-fib. Comp.</td>
</tr>
<tr>
<td>Mastic</td>
<td>15-25% Chrysotile</td>
<td>75-85% Non-fib. Comp.</td>
</tr>
<tr>
<td>Concrete Skim Coat</td>
<td>4-5% Chrysotile</td>
<td>95-96% Non-fib. Comp.</td>
</tr>
<tr>
<td>CMU Block Filler</td>
<td>6% Chrysotile</td>
<td>94% Non-fib. Comp.</td>
</tr>
<tr>
<td>Mudded Pipe Fittings</td>
<td>2-5% Chrysotile</td>
<td>95-98% Non-fib. Comp.</td>
</tr>
<tr>
<td>Drywall Texture</td>
<td>3-5% Chrysotile</td>
<td>95-97% Non-fib.Comp.</td>
</tr>
<tr>
<td>Transite Panels</td>
<td>15% Chrysotile</td>
<td>85% Non-fib. Comp.</td>
</tr>
</tbody>
</table>
CONTRACTOR USE OF PREMISES:

General: The Contractor shall limit his use of the premises to the Work indicated, so as to allow for Owner occupancy and use by the public.

Parking: Parking available at the Owner’s facility may be limited and regulated. Contractor shall coordinate parking for service vehicles, trailers, personnel vehicles, etc. with the Owner and shall comply with all vehicle and parking regulations maintained by the Owner.

Building Access/Keys: Keys will be made available to the contractor for specific work areas within the facility. If keys are not available, or access to a particular area is sensitive, the Owner shall arrange to provide access to the work area at specific times.

SUBMITTALS:

Before the Start of Work: Submit the following to the Owner’s Representative for review. Do not begin Work until these submittals are accepted by the Owner's Representative.

Plan of Action: Submit a detailed plan of the procedures proposed for use in complying with the requirements of this specification. Include in the plan the location and layout of decontamination areas, the sequencing of asbestos work, methods to be used to assure the safety of building occupants and visitors to the site, and a disposal plan including location of approved disposal site. If the project requires a Project Design, per state or federal regulation, the Plan of Action shall include all components required by regulations, and shall be developed by an individual with current and valid Project Designer accreditation and certification.

Inspection: Prior to commencement of Work, inspect areas in which Work will be performed. Prepare a listing of damage to structure, surfaces, and equipment or of surrounding properties which could be misconstrued as damage resulting from the Work. Photograph or videotape existing conditions as necessary to document conditions. Submit to Owner's Representative prior to starting Work.

Schedule: Shall include specific dates for mobilization, set-up, pre-abatement visual inspection, removal, final visual inspection, and clearances, for each Phase of Work.

Schedule of Values: Submit a detailed schedule of values for the performance of the work as required by this Section. Submit the Schedule of Values on a Payment Application Continuation Sheet, on a form acceptable to the Owner and Owner’s Representative. The Schedule of Values shall include the following breakdown:

Project Start-up:
Insurance, Permits, Notifications, and Bonds
For Each Phase of Work:
  Mobilization
  Set-up
For Each Scope of Work Item:
  Removal
  Final Clean
  Tear down
  Disposal

Permit: The Contractor shall submit a draft permit application to the Owner’s Representative prior to submitting the permit to CDPHE.

PART 2 - PRODUCTS
Not Applicable

PART 3 - EXECUTION
Not Applicable

END OF SECTION 01013
PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions, Supplementary General Conditions, and other Division-1 Specification Sections, apply to this Section.

SUMMARY:

This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:

- Administrative and supervisory personnel
- Progress Meetings
- Request for Instruction Form
- Daily Log
- Contingency Plans
- Notifications to other entities at job site
- On-Site Coordination

ADMINISTRATIVE AND SUPERVISORY PERSONNEL:

General Superintendent: Provide a full-time General Superintendent who is experienced in administration and supervision of asbestos abatement projects including Work practices, protective measures for building and personnel, disposal procedures, etc. This person is the Contractor's Representative responsible for compliance with all applicable Federal, State and local regulations, particularly those relating to asbestos-containing materials.

Experience and Training: The General Superintendent must have completed a course at an EPA Training Center or equivalent certificate course in asbestos abatement procedures, and have had a minimum of two (2) years on-the-job training in asbestos abatement procedures.

Competent Person: The General Superintendent is to be a Competent Person as required by OSHA in 29 CFR 1926.

State Certification: The General Superintendent is to be trained, certified and licensed to do abatement Work in the State of Colorado and must have current certifications as evidence of this training.

Accreditation: The General Superintendent is to be accredited as an Asbestos Abatement Supervisor in accordance with the AHERA regulation 40 CFR Part 763, Subpart E, Appendix C.
PROGRESS MEETINGS:

General: In addition to specific coordination meetings, the Contractor shall hold general progress meetings weekly. Each entity then involved in planning, coordination, or performance of Work shall be properly represented at each meeting. The Contractor shall record minutes for each meeting and provide copies to each entity prior to the next regularly scheduled meeting. Meeting minutes shall be generated on the Owner’s forms and include such topics as - change orders, schedule, work practices/quality assurance, manpower, and site safety.

REQUEST FOR INSTRUCTIONS FORM:

RLH Engineering will provide blank RFI Forms to all parties involved. This form is provided in order to properly document any claim, question, or conflict that arises during the abatement project. This form should be used for any concern that will not be sufficiently documented through progress meetings and daily logs. All RFI Forms should be submitted to RLH Engineering to be assigned a chronological number and recorded in the RFI project log. A sample RFI Form is included at the end of this Specification.

PRE-CONSTRUCTION CONFERENCE:

An initial meeting, recognized as "Pre-Construction Conference" will be convened by the Owner. Meet at Project Site, or as otherwise directed. The meeting shall be arranged by the Owner's Representative and shall include at minimum, the General Superintendent, Owner, and Owner's Representative.

This is an organizational meeting, to review responsibilities, submittals, lines of communication, billing procedures, personnel assignments, and to identify specific project coordination. A separate on-site preconstruction conference will be scheduled to locate containment and decontamination areas, temporary facilities, and to review site conditions.

DAILY LOG:

Daily Log: Maintain within the Decontamination Unit a daily log documenting the dates and time of the following items:

- Visitations; authorized and unauthorized.
- Personnel, by name, entering and leaving the Work Area.
- Certifications and Medical Examinations for all personnel
- Special or unusual events, i.e. barrier breaching, equipment failures, accidents.
- Air monitoring tests and test results.
- Documentation of Contractor's completion of the following:
- Inspection of Work Area preparation prior to start of removal and daily thereafter.
Inspection of negative pressure differential equipment and manometers
Removal of any sheet plastic barriers.

Contractor’s inspections prior to lockdown, encapsulation, enclosure or any other operation that will conceal the condition of asbestos containing materials or the substrate from which such materials have been removed.

Removal of waste materials from Work Area.

Contractor’s final inspection/final air test analysis.

Submit a copy of this log at final closeout of Project as a project closeout submittal.

CONTINGENCY PLAN:

Contingency Plan: Prepare a contingency plan for emergencies including fire, accident, power failure, pressure differential system failure, supplied air system failure, or any other event that may require modification or abridgement of decontamination or Work Area isolation procedures. Include in plan specific procedures for decontamination or Work Area isolation. Note that nothing in this specification should impede safe exiting or providing of adequate medical attention in the event of an emergency. The Contractor’s contingency plan must address any possible oxygen deficiency problems.

Post in Clean Room of Personnel Decontamination Unit telephone numbers and locations of emergency services including but not limited to fire, ambulance, doctor, hospital, police, power company, telephone company, and Sargent Security contacts.

NOTIFICATIONS:

Notify emergency service agencies in writing including fire, ambulance, police or other agency that may service the abatement Work site in case of an emergency. Notification is to include methods of entering Work Area, emergency entry and exit locations, modifications to fire notification or fire fighting equipment, and other information needed by agencies providing emergency services.

Notifications of Emergency: Any individual at the job site may notify emergency service agencies if necessary without effect on this Contract or the Contract Sum.

SUBMITTALS:

Before the Start of Work: Submit the following to the Owner's Representative for review. No Work shall begin until these submittals are reviewed with the Owner's Representative.

- Contingency Plans for emergency actions.
- Telephone Numbers and location of emergency services.
- Notifications sent to emergency service agencies.
Accreditation: submit current resume and evidence in form of training course certificate of accreditation of General Superintendent as an asbestos abatement supervisor.

Schedule of Values

ON-SITE COORDINATION:

Communication Radios: The Contractor shall furnish and use, professional hand held FM communication radios capable of allowing the Contractor’s employees to communicate from inside the Work Area to a designated person outside the Work Area. Provide one additional radio for use by the Owner’s Representative.

Sign-In Sheet: The Contractor shall maintain a daily sign-in/sign-out sheet for all workers on the project. The Contractor shall supply a copy of these documents to the Owner's Representative at the completion of the project.

Emergency Response: The Contractor shall maintain a maximum one hour response time for supervisory personnel.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

Not Applicable

END OF SECTION 01043
SECTION 01091 - DEFINITIONS AND STANDARDS - ASBESTOS ABATEMENT

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions, Supplementary General Conditions, and other Division-1 Specification Sections, apply to this Section.

SUMMARY:

General Explanation: A substantial amount of specification language constitutes definitions for terms found in other contract documents, including the drawings. Certain terms used in Contract Documents are defined in this article.

General Requirements: The provisions or requirements of Division-1 sections apply to entire Work of Contract and, where so indicated, to other elements which are included in the Project.

DEFINITIONS:

Approve: The term "approved," where used in conjunction with the Owner's Representative's action on the Contractor's submittals, applications, and requests, is limited to the responsibilities and duties of the Owner's Representative stated in General and Supplementary General Conditions. Such approval shall not release the Contractor from responsibility to fulfill Contract Document requirements, unless otherwise provided in the Contract Documents.

Directed: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the Owner's Representative", "requested by the Owner's Representative", and similar phrases. However, no implied meaning shall be interpreted to extend the Owner's Representative's responsibility into the Contractor's area of construction supervision.

General: Definitions contained in this Article are not necessarily comprehensive, but are general to the extent that they are not defined more explicitly elsewhere in the Contract Documents.

General Superintendent: This is the Contractor's Representative at the Work site. This person will generally be the Competent Person required by OSHA in 29 CFR 1926.

Owner's Representative: This is the entity described as the "Architect" in the General Conditions of the Contract. All references to Architect in the Contract Documents in all cases refer to the Owner's Representative. The Owner's Representative will represent the Owner during construction and until final payment is due. The Owner's Representative will advise and consult with the Owner. The Owner's instructions to the Contractor will be forwarded through the Owner's Representative.
**Project Site** is the space available to the Contractor for performance of the Work, either exclusively or in conjunction with others performing other construction as part of the Project. The extent of the Project site is shown on the Drawings or described in the Project Specifications.

**Provide:** The term "provide" means "to furnish and install, complete and ready for the intended use."

**Regulation:** The term "Regulation" includes laws, statutes, ordinances and lawful orders issued by authorities having jurisdiction, as well as rules, conventions and agreements within the construction industry that control performance of the Work, whether they are lawfully imposed by authorities having jurisdiction or not.

**Testing Laboratories:** A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, either at the Project site or elsewhere, and to report on, and, if required, to interpret, results of those inspections or tests.

**DEFINITIONS RELATIVE TO ASBESTOS ABATEMENT:**

**Accredited or Accreditation** (when referring to a person or laboratory): A person or laboratory accredited in accordance with Section 206 of Title II of the Toxic Substances Control Act (TSCA).

**Adequately Wet:** This phrase, when used in describing asbestos containing materials, means that water will migrate from the material when put under hand pressure.

**Air Monitoring:** The process of measuring the fiber content of a specific volume of air.

**Airlock:** The term "Airlock" when used in describing the construction of decontamination units means a 3'x 3' minimum space between any two connected rooms or areas constructed as a temporary enclosure.

**Amended Water:** Water to which a surfactant has been added to decrease the surface tension to 35 or less dynes.

**Asbestos:** The asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, amosite, and actinolite-tremolite. For purposes of determining respiratory and worker protection both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered shall be considered as asbestos.

**Asbestos Containing Material (ACM):** Any material containing more than 1% by weight of asbestos of any type or mixture of types.

**Asbestos Containing Building Material (ACBM):** Surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a building.
Asbestos Containing Waste Material: Any material which is or is suspected of being or any material contaminated with an asbestos-containing material which is to be removed from a Work Area for disposal.

Asbestos Debris: Pieces of ACBM that can be identified by color, texture, or composition, or means dust, if the dust is determined by an accredited inspector to be ACM.

Authorized Visitor: The Owner, the Owner's Representative, testing lab personnel, the Architect/Engineer, emergency personnel or a representative of any Federal, State and local regulatory or other agency having authority over the Project.

Barrier: Any surface that seals off the Work Area to inhibit the movement of fibers.

Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately six (6) to nine (9) inches.

Cleanable Surface: Any nonporous or sealed building surface or material.

Demolition: The wrecking or taking out of any building component, system, finish or assembly of a facility together with any related handling operations.

Encapsulant: A material that surrounds or embeds asbestos fibers in an adhesive matrix, to prevent release of fibers.

- Bridging encapsulant: an encapsulant that is partially absorbed by the in situ asbestos matrix, but leaves a discrete surface layer.

- Lockdown encapsulant: an encapsulant specifically designed for application after decontamination of the work area is complete, for the purpose of locking down remaining airborne asbestos fibers that cannot be detected by the human eye.

- Penetrating encapsulant: an encapsulant that is absorbed by the in situ asbestos matrix without leaving a discrete surface layer.


Encapsulation: Treatment of asbestos-containing materials, with an encapsulant.

Flapped Doorway: Means a doorway created with three (3) sheets of polyethylene sheeting that covers the same opening hung from a ceiling and attached on opposite walls for alternating sheets.

Friable Asbestos Material: Material that contains more than 1% asbestos by weight and that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.
Glovebag: A sack (constructed of 6 mil transparent polyethylene or polyvinylchloride plastic) with inward projecting longsleeve gloves, which is designed to enclose an object from which an asbestos containing material is to be removed.

HEPA Filter: A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in diameter.

HEPA Filter Vacuum Collection Equipment: High efficiency particulate air filtered vacuum collection equipment with a filter system capable of collecting and retaining asbestos fibers. Filters should be of 99.97% efficiency for retaining fibers of 0.3 microns or larger.

Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.

Personal Monitoring: Sampling of the asbestos fiber concentrations within the breathing zone of an employee.

Pressure Differential and Ventilation System: A local exhaust system, utilizing HEPA filtration capable of maintaining a pressure differential with the inside of the Work Area at a lower pressure than any adjacent area, and which cleans recirculated air or generates a constant air flow from adjacent areas into the Work Area.

Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.

Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.

Visible Emissions: Any emissions containing particulate materials that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.

Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos contaminated waste.

Work Area: The area where asbestos related Work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers or debris, and entry by unauthorized personnel. Work Area is a Regulated Area as defined by 29 CFR 1926.

SPECIFICATION FORMAT AND CONTENT EXPLANATION:

This Article is provided to help the user of these Specifications understand the format, language, implied requirements, and similar conventions. None of the explanations shall be interpreted to modify the substance of Contract requirements.
**Specification Format:** These Specifications are organized into Divisions, Sections or Trade Headings based on the Construction Specifications Institute's 16-Division format and the MASTERFORMAT numbering system. This organization conforms generally to recognized construction industry practice.

**Specification Content:** This Specification has been produced employing conventions in the use of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:

Language used in the Specifications and other Contract Documents is the abbreviated type. Implied words and meanings will be appropriately interpreted. Singular words will be interpreted as plural and plural words interpreted as singular where applicable and where the full context of the Contract Documents so indicates.

**Imperative Language** is used generally in the Specifications. Requirements expressed imperatively are to be performed by the Contractor. At certain locations in the text, for clarity, subjective language is used to describe responsibilities which must be fulfilled indirectly by the Contractor, or by others when so noted.

**INDUSTRY STANDARDS:**

**Applicability of Standards:** Except where Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into Contract Documents. Such standards are made a part of the Contract Documents by reference. Individual Sections indicate which codes and standards the Contractor must keep available at the Project Site for reference.

Referenced industry standards take precedence over standards that are not referenced but recognized in the construction industry as applicable.

Unreferenced industry standards are not directly applicable to the Work, except as a general requirement of whether the Work complies with recognized construction industry standards.

**Publication Dates:** Where compliance with an industry standard is required, comply with standard in effect as of date of Contract Documents.

**Conflicting Requirements:** Where compliance with two or more standards is specified, and they establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the Contract Documents indicate otherwise.

Minimum Quantities or Quality Levels: In every instance the quantity or quality level shown or specified shall be the minimum to be provided or performed. The actual installation may comply exactly, within specified tolerances, with the minimum quantity or quality specified, or it may exceed that minimum within reasonable limits. In complying with these requirements, indicated numeric values are minimum or maximum values, as noted, or appropriate for the context of the requirements.
Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to that entities' construction activity. Copies of applicable standards are not bound with the Contract Documents.

Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations as referenced in Contract Documents are defined to mean the associated names. Names and addresses are subject to change, and are believed to be, but are not assured to be, accurate and up-to-date as of date of Contract Documents:

- **AIA**  
  American Institute of Architects  
  1735 New York Ave. NW  
  Washington, DC 20006  
  202/626-7474

- **CFR**  
  Code of Federal Regulations  
  Available from Government Printing Office; Washington, DC 20402  
  (usually first published in Federal Register)  
  202/783-3238

- **DOT**  
  Department of Transportation  
  400 Seventh St., SW  
  Washington, DC 20590  
  202/426-4000

- **EPA**  
  Environmental Protection Agency  
  401 M St.,SW  
  Washington, DC 20460  
  202/382-3949

- **OSHA**  
  Occupational Safety & Health Administration  
  (U.S. Dept. of Labor)  
  Government Printing Office  
  Washington, DC 20402  
  202/783-3238

- **UL**  
  Underwriters Laboratories  
  333 Pfingsten Rd.  
  Northbrook, IL 60062  
  312/272-8800
PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

Not Applicable

END OF SECTION 01091
PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions, Supplementary General Conditions, and other Division-1 Specification Sections, apply to this Section.

SUMMARY:

This Section sets forth governmental regulations and industry standards which are included and incorporated herein by reference and made a part of the specification. This Section also sets forth those notices and permits which are known to the Owner and which either must be applied for and received, or which must be given to governmental agencies before start of Work.

Requirements include adherence to Work practices and procedures set forth in applicable codes, regulations and standards.

Requirements include obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with codes, regulations, and standards.

CODES AND REGULATIONS:

General Applicability of Codes and Regulations, and Standards: Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all applicable codes, regulations, and standards have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the contract documents, or as if published copies are bound herewith.

Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations pertaining to Work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations. The Contractor shall hold the Owner and Owner’s Representative harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of himself, his employees, or his subcontractors.

Federal Requirements which govern asbestos abatement Work or hauling and disposal of asbestos waste materials include but are not limited to the following:
OSHA: U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA), including but not limited to:

Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; Final Rules
Title 29, Part 1910, Section 1001 and
Part 1926, Section 1101 of the
Code of Federal Regulations

Respiratory Protection
Title 29, Part 1910, Section 134 of the Code of Federal Regulations

Hazard Communication
Title 29, Part 1910, Section 1200 of the Code of Federal Regulations

Construction Industry
Title 29, Part 1926, of the Code of Federal Regulations

Access to Employee Exposure and Medical Records
Title 29, Part 1910, Section 2 of the Code of Federal Regulations

DOT: U. S. Department of Transportation, including but not limited to:

Hazardous Substances
Title 49, Part 171 and 172 of the
Code of Federal Regulations

EPA: U. S. Environmental Protection Agency (EPA), including but not limited to:

Asbestos Hazard Emergency Response Act (AHERA) Regulation
Asbestos Containing Materials in Schools Final Rule & Notice
Title 40, Part 763, Sub-part E of the Code of Federal Regulations

Asbestos School Hazard Abatement Reauthorization Act (ASHARA)
Title 40, Part 763, Revised Appendix C to Subpart E of the Code of Federal Regulations

National Emission Standard for Hazardous Air Pollutants (NESHAPS)
National Emission Standard for Asbestos
Title 40, Part 61, Sub-part A, and Sub-part M (Revised Sub-part B) of the Code of Federal Regulations

State Requirements which govern asbestos abatement Work or hauling and disposal of asbestos waste materials include but are not limited to the following:

Colorado Air Quality Control Commission
Emission Standards for Asbestos
Regulation No. 8 "The Control of Hazardous Air Pollutants"
Part B - Emission Standards for Asbestos
Local Requirements: Abide by all local requirements which govern asbestos abatement Work or hauling and disposal of asbestos waste materials.

STANDARDS:

General Applicability of Standards: Except to the extent that more explicit or more stringent requirements are written directly into the Contract Documents, all applicable standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies are bound herewith.

Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all standards pertaining to Work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor shall hold the Owner and Owner’s Representative harmless for failure to comply with any applicable standard on the part of himself, his employees, or his subcontractors.

Standards which apply to asbestos abatement Work or hauling and disposal of asbestos waste materials include but are not limited to the following:

- American National Standards Institute (ANSI)
  1430 Broadway
  New York, New York 10018
  (212)354-3300

  Fundamentals Governing the Design and Operation of Local Exhaust Systems
  Publication Z9.2-79

- American Society for Testing and Materials (ASTM)
  1916 Race Street
  Philadelphia, PA 19103
  (215)299-5400

  Safety and Health Requirements Relating to Occupational Exposure to Asbestos - E849-82
  Standard Practice for Visual Inspection of Asbestos Abatement Projects - E1368

NOTICES:

U.S. ENVIRONMENTAL PROTECTION AGENCY:

Send Written Notification as required by USEPA National Emission Standards for Hazardous Air Pollutants (NESHAPS) Asbestos Regulations (40 CFR 61, Subpart M) to the regional Asbestos NESHAPS Contact at least 10 working days prior to beginning any Work on asbestos-containing materials. Send notification to the following address:

  EPA, Region VIII (8ART-TS)
  Asbestos Coordinator/NESHAPS Contact
  1595 Wynkoop Street
  Denver, CO 80202-1129
Notification: Include information in the notification as required by the NESHAPS contact.

STATE AND LOCAL AGENCIES:

Send written notification as required by State and local regulations prior to beginning any Work on asbestos-containing materials. Send notification to the following address:
  Colorado Department of Public Health and Environment
  Colorado Air Pollution Control Division (APCD-SS-B1)
  4300 Cherry Creek Drive South
  Denver, CO  80222-1530

PERMITS:

Permit: All asbestos containing waste is to be transported by an entity maintaining a current "Industrial waste hauler permit" specifically for asbestos containing materials to a disposal site. Colorado Department of Public Health and Environment Asbestos Abatement Permit shall be secured, signed by the Project Manager, and on-site prior to start of asbestos abatement.

VARIANCES:

Variances: The Contractor may request a variance from the appropriate Federal, State, or local agency where as the Contractor may demonstrate to the satisfaction of the regulating agency and Owner's Representative that compliance is not practical and feasible or that the proposed alternative procedures provide equivalent control of asbestos. The Contractor shall comply with all terms and conditions of any variance granted. The Owner's Representative must approve in writing any variance application before submission, or variance before the start of Work, and may require additional terms. Acceptance of a variance by a regulatory agency does not constitute approval by the Owner's Representative.

Effect on Contract Sum: The denial of a variance by the Owner's Representative or Regulatory Agency does not constitute a changed condition. There will be no increases in the contract sum or extension of completion dates based upon the Contractor's ability, or inability, to secure a variance.

LICENSES:

Licenses: Maintain current licenses as required by applicable State or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the Work of this Contract.

POSTING AND FILING OF REGULATIONS:

Posting and Filing of Regulations: Post all notices at the Project site as required by applicable Federal, State, and local regulations. Keep copies of all applicable Federal, State, and local regulations and standards on file in Contractor's office.
SUBMITTALS:

Before Start of Work: Submit the following to the Owner’s Representative for review. No Work shall begin until these submittals are received by the Owner’s Representative.

Permits, Licenses, and Certificates: For the Owner’s records, submit copies of notices, permits, licenses, and certifications required by this Section.

- Notices: Submit notices required by Federal, State and local regulations together with proof of timely transmittal to agency requiring the notice.

- Permits: Submit a copy of application for permit and current valid permit required by State regulations.

- Variances: Submit copies of all variances and the corresponding response by regulatory agency.

- Licenses: Submit copies of all State and local licenses necessary to carry out the Work of this Contract.

- Certifications: Submit copies of all State and local certifications of the contractor and employees of the Contractor necessary to carry out the Work of this Contract.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

Not Applicable

END OF SECTION 01092
SECTION 01410 - AIR MONITORING - TEST LABORATORY SERVICES

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions, Supplementary General Conditions, and other Division - 1 Specification Sections, apply to Work of this Section.

Air Monitoring during Work Area Clearance is described in Section 01714 Work Area Clearance.

DESCRIPTION OF THE WORK:

Not in Contract Sum: This Section describes Work being performed by the Owner. This Work is not in the Contract Sum.

This Section describes air monitoring carried out by the Owner to verify that the building beyond the Work Area and the outside environment remains uncontaminated. This Section also sets forth airborne fiber levels both inside and outside the Work Area as action levels, and describes the action required by the Contractor if an action level is met or exceeded.

Air monitoring required by OSHA is Work of the Contractor and is not covered in this Section.

AIR MONITORING:

Work Area Isolation: The purpose of the Owner's air monitoring is to detect faults in the Work Area isolation such as:

- Contamination of the building outside of the Work Area with airborne asbestos fibers,
- Failure of filtration or rupture in the differential pressure system,
- Contamination of air outside the building envelope with airborne asbestos fibers.

Should any of the above occur immediately cease asbestos abatement activities until the fault is corrected. Do not recommence Work until authorized by the Owner's Representative in writing.

Work Area Airborne Fiber Count: The Owner's Representative will monitor airborne fiber counts in the Work Area. The purpose of this air monitoring will be to detect airborne asbestos concentrations which may challenge the ability of the Work Area engineering controls to protect the balance of the building or outside of the building from contamination by airborne fibers.

Work Area Clearance: To determine if the elevated airborne fiber counts encountered during abatement operations have been reduced to an acceptable level, the Owner will sample and analyze air per Section 01714 Work Area Clearance.
STOP ACTION LEVELS:

**Inside Work Area:** Maintain an average airborne count in the Work Area of less than 0.5 fibers per cubic centimeter. If the fiber counts rise above this figure for any sample taken, revise Work procedures to lower fiber counts. If the Time Weighted Average (TWA) fiber count for any Work shift or 8 hour period exceeds 0.5 fibers per cubic centimeter, stop all Work, leave Pressure Differential System in operation and notify Owner's Representative. After correcting cause of high fiber levels, do not recommence Work until authorized in writing, by Owner's Representative.

If airborne fiber counts exceed 2.0 fibers per cubic centimeter for any period of time cease all Work except corrective action until fiber counts fall below 0.5 fibers per cubic centimeter and notify Owner's Representative. After correcting cause of high fiber levels, do not recommence Work until authorized in writing, by Owner's Representative.

**Outside Work Area:** If any air sample taken outside of the Work Area exceeds the base line established below, immediately and automatically stop all Work except corrective action. The Owner's Representative will determine the source of the high reading and so notify the Contractor in writing.

If the high reading was the result of a failure of Work Area isolation measures initiate the following actions:

- Restrict access to the effected area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident. Posting requirements are set forth in Section 01526 - Temporary Enclosures.

- Shut off or modify air handling systems to prevent the distribution of airborne fibers. Establish negative air flow using HEPA equipped negative pressure differential equipment to prevent the spread of airborne contamination to other areas of the project site. Refer to Section 01513 Temporary Pressure Differential and Air Circulation System for construction details.

- Immediately erect new critical barriers as set forth in Section 01526 Temporary Enclosures to isolate the affected area from the balance of the building. Erect Critical Barriers at the next existing structural isolation of the involved space (eg. wall, ceiling, floor).

- Decontaminate the affected area in accordance with Section 01711 Project Decontamination.

- Require that respiratory protection as set forth in Section 01562 Respiratory Protection be worn in affected area until area is cleared for re-occupancy in accordance with Section 01714 Work Area Clearance.
Leave Critical Barriers in place until completion of Work and insure that the operation of the pressure differential system in the Work Area results in a flow of air from the balance of the building into the affected area. If the exit from the Clean Room of the personnel decontamination unit enters the affected area, establish a new decontamination facility consisting of a Shower Room and Changing Room as set forth in Section 01563 Decontamination Units at entry point to the affected area. The original Clean Room may be considered the new Equipment Room for the duration of the Work.

After Certification of Visual Inspection in the Work Area remove critical barriers separating the Work Area from the affected area. Final air samples will be taken within the entire area as set forth in Section 01714 Work Area Clearance.

If the high reading was the result of other causes initiate corrective action as determined by the Owner's Representative.

**Effect on Contract Sum:** Complete corrective Work with no change in the Contract Sum if high airborne fiber counts were caused by Contractor's activities. If the cause of the elevated fiber counts was a result of Contractor error, the Contractor may be held accountable for any additional air sampling and analysis costs. The Contract Sum and schedule will be adjusted for additional Work caused by high airborne fiber counts beyond the Contractor's control.

**ANALYTICAL METHODS:**

The following methods will be used by the Owner in analyzing filters used to collect air samples. Sampling rates may be varied from printed standards to allow for high volume sampling.

**Phase Contrast Microscopy (PCM)** will be performed using the NIOSH 7400A method. This analysis will be carried out at the job site, or at a laboratory located off the job site.

**Transmission Electron Microscopy** will be performed using the analysis method set forth in the AHERA regulation 40 CFR Part 763 Appendix A.

**SAMPLE VOLUMES:**

**General:** The number and volume of air samples taken by the Owner will be in accordance with the following schedule and of sufficient volume to confidently analyze 0.010 f/cc whenever possible. Sample volumes given may vary depending upon the analytical method used.

**SCHEDULE OF AIR SAMPLES:**

**Before Start of Work:**
The Owner will secure the following Air Samples to establish a base line before Start of Work.

Sample cassettes: Samples will be collected on 25 mm. cassettes as follows:

PCM: 0.8 and/or 0.45 micrometer mixed cellulose ester.
TEM: 0.45 micrometer mixed cellulose ester with 5.0 micron mixed cellulose ester backing filter.

**Sampling sensitivity** in the table below refers to:

Detection Limit for PCM analysis as set forth in the analytical method used

Analytical Sensitivity for TEM analysis as set forth in the analytical method used or the AHERA regulation

<table>
<thead>
<tr>
<th>Location Sampled</th>
<th>Number of Samples</th>
<th>Analysis Method</th>
<th>Sampling Sensitivity Fibers/cc.</th>
<th>Minimum Volume (Liters)</th>
<th>Rate LPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each Work Area</td>
<td>1</td>
<td>PCM and Hold for TEM</td>
<td>0.01</td>
<td>1,300</td>
<td>1-10</td>
</tr>
<tr>
<td>Outside Each Work Area</td>
<td>4</td>
<td>PCM and Hold for TEM</td>
<td>0.01</td>
<td>1,300</td>
<td>1-10</td>
</tr>
<tr>
<td>Outside Building Work Area</td>
<td>1</td>
<td>PCM and Hold for TEM</td>
<td>0.005</td>
<td>1,300</td>
<td>1-10</td>
</tr>
</tbody>
</table>

**Base Line** is an action level expressed in fibers per cubic centimeter which is greater than the largest of the following:

Average of the PCM samples collected inside the Work Areas

Average of the PCM samples collected outside each Work Area

Average of the PCM samples collected outside the building

0.01 fibers per cubic centimeter

Samples collected for TEM analysis will be held without analysis. These samples may be analyzed as needed to verify PCM analysis or for quality assurance on the Work.

**Daily:**

From start of Work of Section 01526 Temporary Enclosures through the Work of Section 01711 Project Decontamination, the Owner may be taking the following samples on a daily basis.

Samples will be collected on 25 mm. cassettes with the following filter media:

PCM: 0.8 and or 0.45 micrometer mixed cellulose ester.

TEM: 0.45 micrometer mixed cellulose ester with 5.0 micron mixed cellulose ester backing filter.
<table>
<thead>
<tr>
<th>Location Sampled</th>
<th>Number of Samples</th>
<th>Analysis Method</th>
<th>Sensitivity (Fibers/cc.)</th>
<th>Minimum Volume (Liters)</th>
<th>Rate LPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each Work Area</td>
<td>1</td>
<td>PCM</td>
<td>0.01</td>
<td>1,200</td>
<td>1-10</td>
</tr>
<tr>
<td>Outside Each Work Area at Critical Barrier</td>
<td>1</td>
<td>PCM</td>
<td>0.01</td>
<td>1,200</td>
<td>1-10</td>
</tr>
<tr>
<td>Clean Room</td>
<td>1</td>
<td>PCM</td>
<td>0.01</td>
<td>1,200</td>
<td>1-10</td>
</tr>
<tr>
<td>Equip Decon</td>
<td>1</td>
<td>PCM</td>
<td>0.01</td>
<td>1,200</td>
<td>1-10</td>
</tr>
<tr>
<td>Outside Building</td>
<td>1</td>
<td>PCM</td>
<td>0.01</td>
<td>1,200</td>
<td>1-10</td>
</tr>
<tr>
<td>Output Pressure Differential Sys</td>
<td>1</td>
<td>PCM</td>
<td>0.01</td>
<td>1,200</td>
<td>1-10</td>
</tr>
</tbody>
</table>

Additional samples may be taken at Owner's or Owner's Representatives discretion. If airborne fiber counts exceed allowed limits additional samples will be taken as necessary to determine the source of fiber counts and to monitor fiber levels.

LABORATORY TESTING:

The services of a testing laboratory will be employed by the Owner to perform laboratory analyses of clearance air samples. A microscope equipped technician will set up at the job site, or samples will be sent overnight on a daily basis, so that verbal reports on air samples can be obtained within 24 hours. The Contractor will have access to all air monitoring tests and results.

A complete record of all air monitoring and results will be furnished to the Owner's Representative, the Owner, and the Contractor upon request.

Written Reports of all air monitoring tests will be posted at the job site on a daily basis.

PART 2 - PRODUCTS

Not Applicable
PART 3 - EXECUTION

PERSONNEL MONITORING:

The Owner and Owner’s Representative will not perform air monitoring to meet Contractor’s OSHA requirements for personnel sampling or any other purpose.

ADDITIONAL TESTING:

The Contractor may conduct his own air monitoring and laboratory testing. If he elects to conduct his own air monitoring, cost of such air monitoring and laboratory analysis shall be at no additional cost to the Owner.

END OF SECTION 01410
SECTION 01503 - TEMPORARY FACILITIES - ASBESTOS ABATEMENT

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of the Contract, including General Conditions, Supplementary General Conditions, and other Division-1 Specification Sections, apply to Work of this Section.

DESCRIPTION OF REQUIREMENTS:

General: Provide temporary connection to existing building utilities or provide temporary facilities as required herein or as necessary to carry out the Work.

PART 2 - PRODUCTS

MATERIALS AND EQUIPMENT:

General: Provide new or used materials and equipment that are undamaged and in serviceable condition. Provide only materials and equipment that are recognized as being suitable for the intended use, by compliance with appropriate standards.

Scaffold: Provide new or used scaffold equipment that is in good condition and clean of debris, dirt, or mortar. Provide scaffolding equipment and design complying with CFR 29 Part 1926 Subpart L, M, and X.

WATER SERVICE:

Temporary Water Service Connection: The Contractor shall provide a suitable backflow protection device and any other valves deemed necessary by the Contractor and/or Owner's Representative. Valves shall be temperature and pressure rated for operation of the temperatures and pressures encountered. After completion of use, the Contractor's equipment and fittings shall be removed without damage or alteration to Owner's water piping and equipment. Hoses shall be of commercial grade, or better, and rated for the temperatures and pressures encountered.

Hot Water: The Contractor shall provide a hot water heater capable of providing enough hot water for all workers and authorized visitors to the site. Any combustible heating system shall be securely placed outside the building with warning signs posted.

ELECTRICAL SERVICE:

General: Comply with applicable NEMA, NECA, OSHA and UL standards and governing regulations for materials and layout of temporary electric service.
**Temporary Power:** The Contractor shall provide temporary electrical panel(s) with appropriately sized conductor cord (i.e. "pigtail"), up to 200 feet in length, for connection to the Owner's electrical system. The Contractor shall arrange for test, connect, and disconnect of the Contractor's temporary electrical panel(s). The Contractor shall provide all other electrical devices and equipment to hook up to the pigtail and properly conduct the Work. Pigtail, sub-panel, and disconnect shall be sized and equipped to accommodate all electrical equipment required for completion of the Work. The Contractor must deliver temporary panels with "pigtail" to the job site a minimum of 48 hours in advance of intended use.

**Ground Fault Protection:** Equip all circuits for any purpose entering Work Area with ground fault circuit interrupters (GFCI). Locate GFCIs exterior to Work Area, if possible, so that all circuits are protected prior to entry to Work Area.

**Lamps and Light Fixtures:** Provide general service incandescent lamps or fluorescent lamps of wattage required for adequate illumination as required by the Work of this Section. Protect lamps with guard cages or tempered glass enclosures where fixtures are exposed to breakage by construction operations.

**TEMPORARY HEAT:**

**Heating Units:** Provide temporary heating units as needed to maintain comfortable temperatures in the Work Area. Use only heaters that are AGA certified to meet ANSI and OSHA safety requirements.

**TEMPORARY COOLING:**

**Cooling Units:** Provide temporary cooling units as needed to maintain a comfortable temperature in the Work Area.

**FIRST AID:**

**First Aid Supplies:** Comply with governing regulations and recognized recommendations within the construction industry.

**FIRE EXTINGUISHERS:**

**Fire Extinguishers:** Provide Type "A" fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical or grease-oil-flammable liquid fires. In other locations provide Type "ABC" dry chemical extinguishers, or a combination of several extinguishers of NFPA recommended types for the exposures in each case. Locate fire extinguishers where they are most convenient and effective for their intended purpose, but provide not less than one extinguisher in each Work Area, and one outside Work Area in Staging Area.

**TEMPORARY PARTITIONS:**

**General:** Provide temporary partitions, where called for, for the purpose of separating the abatement work area from non-work areas, creation of buffer zones, or generally to prevent the
general public from entering a work area. These partitions are separate from temporary partitions for construction of abatement enclosures. Partitions shall be installed in a workmanlike manner.

**Framing Materials:** Provide non-combustible metal framing materials, in widths, depths, and gauges specified. Studs shall be C-shaped, with stiffened flanges, and dimensions of web and flanges as indicated. Steel track shall be U-shaped, with straight flanges, and dimensions of web and flanges as indicated. Studs and plates shall be fastened together with self-tapping screws. Do not fasten studs or plates to existing building surfaces. Partitions shall be held in place by pressure-fitting or bracing.

**Sheathing Materials:** Provide Type X 5/8” Gypsum Board and fasten to metal framing with appropriate drywall screws. Apply joint compound to all sheetrock seams. Where acceptable, use of plywood or oriented strand board (OSB) sheathing may be used in place of

**Doors:** Where necessary for access into the work area or other areas of the facility, install pre-hung doors with lockable hardware (keyed lockset, padlocked hasp, etc.) and fixed hinge pins. Provide a copy of each key for doors to the Owner and Owner’s Representative.

**PART 3 - EXECUTION**

**ELECTRICAL SERVICE:**

**Lockout:** Lockout all existing power to or through the Work Area as described below. Unless specifically noted otherwise, existing power and lighting circuits to the Work Area are not to be used. All power and lighting to the Work Area and Decontamination facilities are to be provided from temporary electrical panel described below.

Lockout power to Work Area by switching off all breakers serving power or lighting circuits in Work Area.

Lockout power to circuits running through Work Area wherever possible by switching off all breakers serving these circuits. If circuits cannot be shut down for any reason, label these lines and then inform all workers of the hazard.

**Power Distribution System:** Provide ground fault circuit interrupter (GFCI) protected circuits of adequate size and proper characteristics for each use.

**TEMPORARY LIGHTING:**

All lighting to the Work Area and Decontamination facilities is to be provided from temporary electrical panel described above.

Provide adequate lighting throughout areas where Work is being performed. Any string lights used shall be heavy duty and designed specifically for wet locations.
The Contractor shall arrange lighting and cords in the Work Area to prevent electrical and trip hazards.

The Contractor shall provide temporary lighting for visual inspections by the Owner's Representative.

SANITARY FACILITIES: Contractor shall provide and maintain, in a neat and sanitary condition, adequate chemical toilet facilities for the use of employees engaged in the work. Toilets in the existing buildings may not be used.

TEMPORARY PARTITIONS: The Contractor shall erect temporary partitions, where directed or as necessary, to separate the work area from non-work areas. Use framing materials, with studs at a minimum of 16” on center. Do not fasten studs or plates to existing building surfaces if these surfaces are to be protected in place. Partitions shall be held in place by pressure-fitting or bracing. Install sheathing to non-work area side of framing. Apply joint compound to all gypsum board seams. All components of the temporary partition shall be installed in a workmanlike manner. Where necessary for access into the work area or other areas of the facility, install pre-hung doors with lockable hardware (keyed lockset, padlocked hasp, etc.) and fixed hinge pins. Provide keys to the Owner and Owner’s Representative.

CONSTRUCTION FENCE: The Contractor shall erect temporary construction fence around outdoor staging areas, vacuum equipment, or dumpsters, for security and protection of students, faculty, and the public. Fences shall be 6’0” high, constructed of chain link with steel posts 8’0” on centers with gates as required. Gates closed and locked after working hours.

END OF SECTION 01503
SECTION 01513 - TEMPORARY PRESSURE DIFFERENTIAL AND AIR CIRCULATION SYSTEM

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions, Supplementary General Conditions, and other Division-1 Specification Sections, apply to Work of this Section.

MONITORING:

Continuously monitor and record the pressure differential between the Work Area and the building outside of the Work Area with a monitoring device incorporating a continuous recorder (e.g. strip chart).

SUBMITTALS:

Before Start of Work: Submit design of pressure differential system to the Owner's Representative for review. Include in the submittal at a minimum:

- Number of HEPA filtered fan units required and the calculations necessary to determine the number of machines
- Description of projected air flow within Work Area and methods required to provide adequate air flow in all portions of the Work Area
- Anticipated pressure differential across Work Area enclosures
- Location of the machines in the Work Area
- Location of differential pressure meter with continuous recorder (strip chart)

QUALITY ASSURANCE:

Monitor pressure differential at Personnel and Equipment Decontamination Units with a differential pressure meter equipped with a continuous recorder. Meter shall be equipped with a warning buzzer which will sound if pressure differential drops below 0.025" of water.

PART 2 - PRODUCTS

HEPA FILTERED FAN UNITS:

General: Supply the required number of HEPA filtered fan units to the site in accordance with these specifications. Provide filters that are in good condition, immediately replace damaged or grossly contaminated filters.
Disposable Duct: Provide new wire-reinforced plastic disposable duct for ducting exhaust from HEPA filtered fan units. Reuse of disposable duct from other projects is strictly prohibited. Use of “lay-flat” polyethylene duct is prohibited, with the exception of use as a protective poly layer over wire reinforced duct, to protect wire-reinforced duct from gross asbestos removal operations. Use of “lay-flat” polyethylene duct as primary exhaust duct is strictly prohibited.

HEPA Equipped vacuums are not considered acceptable substitutes, and are prohibited for use as negative pressure differential equipment.

HEPA Filters: Provide units whose final filter is the HEPA type with the filter media (folded into closely pleated panels) completely sealed on all edges with a structurally rigid frame.

Provide HEPA filters that are individually tested and certified by the manufacturer to have an efficiency of not less than 99.97 percent when challenged with 0.3 um dioctylphthalate (DOP) particles.

Prefilters, which protect the final filter by removing the larger particles, are required to prolong the operating life of the HEPA filter. Two stages of prefiltration are required.

- First-stage prefilter for particles 100 um and larger
- Second-stage (or intermediate) filter for particles down to 5 um

Safety and Warning Devices: Provide units with the following safety and warning devices:

- Electrical (or mechanical) lockout to prevent fan from operating without a HEPA filter
- Automatic shutdown system to stop fan in the event of a rupture in the HEPA filter or blocked air discharge
- Warning lights to indicate normal operation (green), too high a pressure drop across the filters (i.e., filter overloading) (yellow), and too low of a pressure drop (i.e., rupture in HEPA filter or obstructed discharge) (red)
- Audible alarm if unit shuts down due to operation of safety systems

**PART 3 - EXECUTION**

PRESSURE DIFFERENTIAL ISOLATION:

This specification details the requirements for the negative pressure differential system. The Contractor will be allowed to deviate from specific system requirements if an alternate pressure differential system is used and is approved by the Owner’s Representative. However, the intent of the specification to provide adequate pressure differential must be met regardless of the type of system actually used.
Isolate the Work Area from all adjacent areas or systems of the building with a Pressure Differential that will cause a movement of air from outside to inside at any breach in the physical isolation of the Work Area.

**Relative Pressure in Work Area:** Continuously maintain the Work Area at an air pressure that is lower than that in any surrounding space in the building, or at any location in the immediate proximity outside of the building envelope. This pressure differential when measured across any physical or critical barrier must equal or exceed a static pressure of:

\[-0.025 \text{ inches of water}\]

Accomplish the pressure differential by exhausting a sufficient number of HEPA filtered fan units from the Work Area. The number of units required will depend on machine characteristics, the seal at barriers, and required air circulation. The number of units will increase with increased make-up air or leaks into the Work Area. Determine the number of units required for pressure isolation by the following procedure:

1. Establish required air circulation in the Work Area, personnel, and equipment decontamination units.
2. Establish isolation by increased pressure in adjacent areas or as part of seals where required.
3. Exhaust a sufficient number of units from the Work Area to develop the required pressure differential. Each unit shall be individually exhausted to an exhaust outlet. Temporary ducts shall not be connected at a manifold junction to reduce the number of exhaust ducts and outlets.

The required number of units is the number determined above plus one additional unit.

**Vent HEPA filtered fan units to outside of building** unless authorized in writing by Owner's Representative.

1. Mount units to exhaust directly or through disposable ductwork.
2. Use wire reinforced disposable plastic or metallic ductwork in lengths not greater than 100 feet. No “lay flat” is to be used in place of wire reinforced ductwork.
3. Connect and secure exhaust duct to the fan unit exhaust port with duct tape. As additional reinforcement of connection, cinch exhaust duct on fan exhaust port with appropriately sized pipe clamp or plastic zip-tie.
4. Use “lay flat”, or a single sheet of 6 mil poly, to cover the reinforced ductwork from start of project through decontamination in areas where exhaust ductwork is exposed to abatement operations. Replace when visibly damaged or grossly contaminated.
At point where exhaust duct exits the Work Area/building, provide a pressure-fit wood framing materials and plywood barrier (in thickness specified), with holes sized to fit ductwork. Use plywood in place of existing window/door. Provide an additional ½” gap welded steel mesh over the exhaust duct hole secured to prevent access through the exhaust duct. Install plywood to maintain building security.

AIR CIRCULATION IN THE WORK AREA:

Air Circulation: For purposes of this section, air circulation refers to either the introduction of outside air to the Work Area or the circulation and cleaning of air within the Work Area.

Air circulation in the Work Area is a minimum requirement intended to help maintain airborne fiber counts at a level that does not significantly challenge the Work Area isolation measures. The Contractor may also use this air circulation as part of the engineering controls in his worker protection program.

Determining the Air Circulation Requirements: Provide a fully operational air circulation system supplying a minimum of the following air circulation rate:

4 air changes per hour

The number of fan units required to meet air circulation rate can be determined by the following equations:

First, determine the volume of each air change:

Total Cubic Feet/Minute (CFM) = Volume of the Work Area (in Cubic Feet) / (60 minutes/hour) / (4 air changes/hour)

Second, determine the required number of fan units:

Number of fan units = CFM (as determined above) / Capacity of fan unit (CFM)

The required number of units is the number determined above, rounded up to the nearest whole number. Use one additional unit, for the purpose of replacing a fan unit that fails during the work.

EXHAUST SYSTEM:

Pressure differential isolation and air circulation in the Work Area are to be accomplished by an exhaust system as described below.

Exhaust all units from the Work Area to meet air circulation requirement of this Section.
Location of HEPA Filtered Fan Units: Locate fan unit(s) so that makeup air enters Work Area primarily through decontamination facilities and traverses Work Area as much as possible. This may be accomplished by positioning the HEPA filtered fan unit(s) at a maximum distance from the worker access opening or other makeup air sources.

Place End of Unit at intake duct or its exhaust duct through an opening in the plastic barrier or wall covering. Seal plastic around the unit with duct tape.

Vent to Outside of Building, unless authorized in writing by the Owner's Representative.

Decontamination Units: Arrange Work Area and Decontamination Units so that the majority of makeup air comes through the Decontamination Units. Do not use both the personnel and equipment Decontamination Units simultaneously. While using one Decontamination Unit seal the other so that makeup air passes through the unit in use.

Supplemental Makeup Air Inlets: Provide, where required for proper air flow through the Work Area, in location approved by the Owner's Representative, supplemental makeup air inlets by making openings in the plastic sheeting that allow air from outside the building into the Work Area. Seal openings with 5 um prefilters secured to the plastic sheeting with duct tape. Locate auxiliary makeup air inlets as far as possible from the fan unit(s) (e.g., on an opposite wall), off the floor (preferably near the ceiling), and away from barriers that separate the Work Area from occupied clean areas. Cover with flaps to reseal automatically if the pressure differential system should shut down for any reason.

Scrubber Fan Units: Where required, provide HEPA filtered scrubber fan units to maintain proper air flow through the Work Area, in locations approved by Owner’s Representative. Direct exhaust from scrubber fan units away from any critical barriers. Scrubber fan units shall be operational during all active gross removal work.

AIR CIRCULATION IN DECONTAMINATION UNITS:

Pressure Differential Isolation: Continuously maintain the pressure differential required for the Work Area in the:

Personnel Decontamination Unit: Across the Shower Room with the Equipment Room at a lower pressure than the Clean Room.

Equipment Decontamination Unit: Across the Holding Room with the Wash Room at a lower pressure than the Clean Room.

Air Circulation: Continuously maintain air circulation in Decontamination Units at same level as required for Work Area.

Air Movement: Arrange air circulation through the Personnel Decontamination Unit so that it produces a movement of air from the Clean Room through the Shower Room into the Equipment Room.
USE OF THE PRESSURE DIFFERENTIAL AND AIR CIRCULATION SYSTEM:

General: Each unit shall be serviced by a dedicated circuit with ground fault circuit interrupter (GFCI) supplied from temporary power supply installed under requirements of Section 01503 "Temporary Facilities."

Testing the System: Test pressure differential system after critical barriers are in place but prior to the construction of primary and secondary barriers. After critical barriers are in place, the decontamination facility set up, and the fan unit(s) installed, start the unit(s) (one at a time). Demonstrate operation and testing of pressure differential system (minimum 0.025" water) to Owner's Representative before proceeding.

Demonstrate Operation of the pressure differential system to the Owner's Representative including, but not be limited to, the following:

- Plastic barriers and sheeting move lightly in toward Work Area,
- Curtain of decontamination units move lightly in toward Work Area,
- There is a noticeable movement of air through the Decontamination Unit,
- Smoke test the containment to confirm air flow from the balance of the building into the Work Area.

Modify the Pressure Differential System as necessary to demonstrate successfully the above.

Use of System During Abatement Operations:

Start fan units before beginning Work. After abatement Work has begun, run units continuously to maintain a constant pressure differential and air circulation until decontamination and final air testing of the Work Area is complete. Do not turn off units at the end of the Work shift or when abatement operations temporarily stop.

Do not shut down air pressure differential system during lockdown procedures, unless authorized by the Owner's Representative in writing. Supply sufficient pre-filters to allow frequent changes during lockdown.

Start abatement Work at a location farthest from the fan units and proceed toward them. If an electric power failure occurs, immediately stop all abatement Work and do not resume until power is restored and fan units are operating again.

At completion of abatement Work, allow fan units to run as specified under Section 01711, to remove airborne fibers that may have been generated during abatement and final clean and to purge the Work Area with clean makeup air. The units may be required to run for a longer time after decontamination, if dry or only partially wetted asbestos material was encountered during any abatement Work.
Dismantling the Scrubber Fan Unit System: As part of the final cleaning process, the Contractor shall dispose of contaminated filters from scrubber units and decontaminate the unit motor, housing, and frame. Exhaust from scrubber units is considered contaminated until a thorough cleaning and inspection of the unit has been performed, including the installation of new HEPA filters.

Dismantling the System: When a final inspection and the results of final air tests indicate that the area has been decontaminated, fan units may be removed from the Work Area. Before removal from the Work Area, remove and properly dispose of pre-filters, decontaminate exterior of machine and seal intake to the machine with 6 mil polyethylene to prevent environmental contamination from the filters.

Pressure Differential Unit Shutdown procedure:

1. Disconnect the exhaust duct from Pressure Differential Unit, allowing the Pressure Differential Unit to momentarily exhaust into abatement Work Area.

2. Mist the Pressure Differential Unit HEPA filter inlet surface with penetrating encapsulant.

3. Turn off the Pressure Differential Unit and disconnect from the electrical power source and immediately seal inlet port with pre-cut 6 mil sheet poly and duct tape.

4. Wet wipe the Pressure Differential Unit and cover the inlet port with a second layer of 6 mil sheet poly and duct tape.

Transport of Fan Units:

At all times, the filter side of all pressure differential units shall be completely sealed with at least two layers of 6 mil poly when not in use.

END OF SECTION 01513
SECTION 01526 - TEMPORARY ENCLOSURES

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions, Supplementary General Conditions, and other Division-1 Specification Sections, apply to Work of this Section.

PART 2 - PRODUCTS

HEPA-Filtered Vacuums:

Provide Vacuums that are manufactured and intended for use during asbestos abatement, which accommodate the installation of HEPA Filters. All vacuums shall be clean of all other dust and debris when delivered to the project site, and shall not have HEPA filters installed. HEPA filters shall be new in the manufacturer’s original packaging when delivered to the project site, and installed in the HEPA Vacuums in the presence of the Owner’s Representative. Use of HEPA Filtered Vacuums that have been brought directly to the project site from other asbestos abatement projects is prohibited.

SHEET PLASTIC:

Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 6 mil thick, clear, or black as needed.

STRIPPABLE COATINGS:

Provide strippable coatings premixed for spray application formulated to adhere gently to surfaces and remove cleanly by peeling off at the completion of the Work.

Provide only water-based latex materials.

Provide materials manufactured for the specific application required.

Wall coating: designed to be easy to remove.

Fire Safety - Provide materials meeting the following requirements:

When wet or while being installed:
1. Do not create combustible vapors,
2. Have no flash point
3. Are not noxious
4. Department of Transportation category of non-flammable.
When dry, material must have a Class A rating as a building material and meet the following requirements when tested in accordance with ASTM E-84:
1. Flame Spread no greater than 20
2. Fuel Contributed 0
3. Smoke Developed no more than 110

Deliver materials to the job site in unopened, factory-labeled containers.

Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the Work include, but are not limited to, the following:

Foster Products Corporation
2900 Granada Lane
Oakdale, MN 55128

MISCELLANEOUS MATERIALS:

Duct Tape: Provide duct tape in 2" or 3" widths with an adhesive which is formulated to stick aggressively to sheet polyethylene.

Gypsum Board (Drywall): Where the use of combustible enclosure materials is a concern, or where specified, provide Type X 5/8" Gypsum Board.

Metal Framing: Where use of combustible framing materials is a concern, or where specified, provide new metal framing materials. Studs shall be C-shaped, with stiffened flanges, and dimensions of web and flanges as indicated. Steel track shall be U-shaped, with straight flanges, and dimensions of web and flanges as indicated.

Plywood Sheeting/Wood Framing: provide new materials in the dimension and thickness specified.

Rigid Foam Board Insulation: provide closed cell foam board insulation with a minimum thickness of 1" for filling voids in ceiling plenums or as otherwise specified.

Spray Cement: (Spray Adhesive) is not to be used to attach polyethylene sheets to existing finishes (walls, floors, ceilings) within the building. It may be used to secure overlapping sheets of polyethylene sheets.

Spray Foam: Spray foam may be used to seal small cracks/gaps in the wall and ceiling structure. At the completion of the Work the Contractor shall be responsible for either removing the foam or trimming it flush with building surfaces.
PART 3 - EXECUTION

SEQUENCE OF WORK:

Carry out Work of this Section sequentially. Complete each activity before proceeding to the next.

GENERAL:

Work Area: A "Work Area" is considered contaminated during the Work, must be isolated from the balance of the building, and decontaminated at the completion of the asbestos abatement Work.

Completely isolate the Work Area from other parts of the building so as to prevent asbestos-containing dust or debris from passing beyond the isolated area. Should the area beyond the Work Area(s) become contaminated with asbestos-containing dust or debris as a consequence of the Work, isolate those areas as per this Section and clean in accordance with the procedures detailed in Section 01711. Perform all such required cleaning or decontamination at no additional cost to Owner.

Place all tools, scaffolding, staging, etc., necessary for the Work in the area prior to completion of Work Area isolation.

Cover equipment and fixed furnishings with two (2) layers of polyethylene sheeting, at least 6 mil in thickness, securely taped with duct tape. Such furnishings and equipment shall be considered outside the Work Area unless covering plastic or seal is breached.

Disable ventilating systems or any other system bringing air into or out of the Work Area. Disable system by disconnecting wires, removing circuit breakers, by lockable switch or other positive means that will prevent accidental premature restarting of equipment.

Lockout power to Work Area by switching off all breakers serving power or lighting circuits in Work Area. Lock panel and have all keys under control of Contractor's Superintendent and Owner's Representative.

Lockout power to circuits running through Work Area wherever possible by switching off all breakers or removing fuses serving these circuits. Lock panel and have all keys under control of Contractor's Superintendent and Owner's Representative.

EMERGENCY EXITS:

Provide emergency exits and emergency lighting as set forth below:

Emergency Exits: At each existing exit door from the Work Area provide the following means for emergency exiting:

Arrange exit door so that it is secure from outside the Work Area but permits exiting from the Work Area.
Mark outline of door on Primary and Critical Barriers with luminescent paint. Hang a razor knife on a string beside outline. Arrange Critical and Primary barriers so that they can be easily cut with one pass of razor knife. Paint words "EMERGENCY EXIT" inside outline with luminescent paint in letters at least one foot high and 2" wide.

CONTROL ACCESS:

Isolate the Work Area to prevent entry by building occupants into Work Area or surrounding controlled areas. Accomplish isolation by the following:

Submit to Owner's Representative a list of doors and other openings that must be secured to isolate Work Area. Include on list notation if door or opening is in an indicated exit route.

After reviewing the list with the Owner's Representative, lock all doors into Work Area. Cover any signs that direct emergency exiting, either outside or inside of Work Area, to locked doors.

In locations where work of this project impacts existing exit routes furnish and install temporary exit signage to direct building occupants to emergency exits.

Do not obstruct doors required for emergency exits from Work Area or from building.

Construct temporary partitions as required on the Drawings to restrict access between the Work Area and other parts of the building. Do not construct partitions obstructing or prohibiting emergency exiting from the building.

Locked Access: Arrange Work Area so that the only access into Work Area is through lockable doors to personnel and equipment decontamination units.

Provide one key for each door to Owner and Owner's Representative and maintain one key in Clean Room of decontamination unit (3 total).

Visual Barrier: Where the Work Area is immediately adjacent to, within view of occupied areas, or outside the building, provide a visual barrier of opaque polyethylene sheeting at least 6 mil in thickness so that the Work procedures are not visible to building occupants.

View Ports: Construct a clear view port with a minimum size of 12"x 12" installed to allow a view of the interior of the Work Area. Install view ports in all feasible locations in order to give a clear view of abatement Work operations.
Provide Warning Signs with approximately 2" high lettering at each locked door leading to Work Area reading as follows:

**LEGEND:**

KEEP OUT
BEYOND THIS POINT
ASBESTOS ABATEMENT WORK
IN PROGRESS
BREATHING ASBESTOS DUST MAY BE HAZARDOUS TO YOUR HEALTH

Immediately inside door and outside critical barriers post an approximately 20 inch by 14 inch manufactured caution sign displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926:

**LEGEND:**

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED
IN THIS AREA

**RESPIRATORY AND WORKER PROTECTION:**

Before proceeding beyond this point in providing Temporary Enclosures:

- Provide Worker Protection per Section 01560
- Provide Respiratory Protection per Section 01562
- Provide Personnel Decontamination Unit per Section 01563

**CRITICAL BARRIERS:**

Completely Separate the Work Area from other portions of the building, and the outside by sealing all openings with sheet plastic barriers at least 6 mil in thickness, or by sealing cracks leading out of Work Area with duct tape.

Individually seal all ventilation openings (supply and exhaust), lighting fixtures, clocks, doorways, windows, convectors and speakers, electrical outlets, switches and other openings into the Work Area with duct tape alone or with polyethylene sheeting at least 6 mil in thickness, taped securely in place with duct tape. Maintain seal until all Work including Project Decontamination is completed. Take care in sealing of lighting fixtures to avoid melting or burning of sheeting/duct tape.

Mechanically Support sheet plastic independently of duct tape or seals as necessary so that seals do not open due to the weight of the plastic. As a minimum, freestanding sheet poly over 8' tall shall be frame supported on 6' centers.
Provide Pressure Differential System per Section 01513.

Permanent/Temporary Partitions: Install permanent or temporary framed/sheeted enclosure partitions, necessary for maintaining negative air pressure differential in the work area.

PREPARE AREA:

Scaffolding: If fixed scaffolding is to be used, HEPA vacuum and wet clean area prior to scaffolding installation.

Remove all electrical and mechanical items, such as lighting fixtures, diffusers, registers, escutcheon plates, etc. which cover any part of the surface of the Work, or are necessarily disassembled with the ceiling system.

Clean all surfaces in Work Area with a HEPA filtered vacuum cleaner and by wet wiping prior to the installation of primary barrier.

SECONDARY ENCLOSURE:

Construct the following containment if the Work is to be performed within a secondary enclosure. Containment requirements are listed in Section 02081 per material.

Cleanable building surfaces may be used as barriers for secondary enclosures. Non-cleanable building surfaces shall be isolated from the Work Area with 1 layer minimum 6 mil polyethylene sheeting and duct tape mechanically supported if necessary.

Perform all Work as described within Section 01526 up to this paragraph, including critical barriers, preparing area, isolating Work Area, worker protection, and respiratory protection.

The Contractor shall install temporary pressure differential equipment, as described in Section 01513, to demonstrate negative air flow into the Work Area.

The Contractor may substitute a 3’x 3’ Change Room used in conjunction with remote shower procedures in the place of Personnel Decontamination Unit specified in Sections 01560 and 01563.

Work described as Full Enclosure/Primary Barrier does not apply to Secondary Enclosures.

FULL ENCLOSURE:

Construct the following containment if the Work is to be performed within a full enclosure. Containment requirements are listed in Section 02081 per material.

PRIMARY BARRIER:

Protect building and other surfaces in the Work Area from damage from water and high humidity or from contamination from asbestos containing debris, slurry or high airborne fiber levels by covering with a primary barrier as described below. The primary barrier shall be constructed from sheet plastic as described below.
Strippable Coating: Protect surfaces in the Work Area with a strippable coating. Perform all Work in strict compliance with manufacturer's instructions. Carry out Work in the following sequence.

Inspect: Before start of coating Work inspect all surfaces to be coated. Report on any surfaces that may be damaged by the material or any condition that may interfere with adhesion of the coating to a surface to the Owner's Representative before application of coating.

Photograph or videotape existing damage to affected surfaces and submit documentation to Owner's Representation.

Test Patches: Apply test patches as directed by Owner or Owner's Representative. Apply a small area of strippable coating to a hidden or obscure area of each surface in the Work Area to be coated. Allow to dry and peel off. Demonstrate results to Owner's Representative prior to coating entire area. Commence coating of area only after receiving written authorization from the Owner's Representative.

Cover surfaces and equipment in Work Area from which coating may not strip cleanly.

Cover shelving, clocks, light fixtures and other equipment with one layer of 6 mil sheet plastic.

Cover fabric, paper, or cork wall coverings with one layer of 6 mil sheet plastic.

Tape over any cracks that are larger than 1/16”.

Tape over electrical outlets, switches, door locks, etc.

Protect critical barriers: Install strippable coating so that it will not remove critical barriers during stripping of coating. Cover critical barriers comprised of sheet plastic with a second layer of sheet plastic configured to be removed with strippable coating. Protect critical barriers made from tape with a protective layer of sheet plastic or duct tape.

Coat all surfaces in Work Area with strippable coating in following order.

Walls: Coat seams, corners, and junctions vertically. Coat balance of walls horizontally lapping over vertical sprayed areas by 50%.

Use straight edge to shield asbestos containing materials from coating during spray application.

Apply: to the minimum thicknesses as recommended by the manufacturer. Thickness is to be measured when material is wet using a wet film thickness gauge.

Do not apply over tacky or chalky adhesives remaining from carpet or other floor covering removal.
Respiratory protection: Require that all workers in Work Area, from start of spray operation until all surfaces are dry, use as a minimum requirement; a full-face negative pressure respirator equipped with combination ammonia and HEPA type filter cartridges. Details on Respiratory Protection are specified in Section 01562, Respiratory Protection.

Worker protection: Equip all workers in Work Area during spray operation with eye protection, disposable gloves, and disposable paper suits.

Ventilation: During spraying operation maintain a minimum of four (4) air changes per hour in the entire Work Area. Operate one additional HEPA filtered fan unit per spray operator in area while spraying is taking place.

Charcoal Filters: Provide charcoal pre-filters for the HEPA filtered fan units during all spray poly application and drying periods.

Sheet Plastic: Protect surfaces in the Work Area with two (2) layers of plastic sheeting on floor and walls, or as otherwise directed on the Contract Drawings or in writing by the Owner's Representative. The first layer of plastic sheeting, floors and walls, shall be installed prior to beginning installation of the second layer. Perform work in the following sequence.

Cover Floor of Work Area with two (2) individual layers of clear polyethylene sheeting, each at least 6 mil in thickness, turned up walls at least 12 inches. Form a sharp right angle bend at junction of floor and wall so that there is no radius which could be stepped on causing the wall attachment to be pulled loose. Both spray-glue and duct tape all seams in floor covering. Locate seams in top layer six feet from, or at right angles to, seams in bottom layer. Install sheeting so that top layer can be removed independently of bottom layer. If the flooring is to be abated, disregard this paragraph.

Cover Carpeting with three (3) layers of polyethylene sheeting at least 6 mil in thickness. Place corrugated cardboard sheets between the top and middle layers of polyethylene. If the flooring is to be abated, disregard this paragraph.

Cover all walls in Work Area including "Critical Barrier" sheet plastic barriers with two (2) layers of polyethylene sheeting, each at least 6 mil in thickness, turned out at floors at least 12 inches, mechanically supported and sealed with duct tape in the same manner as "Critical Barrier" sheet plastic barriers. Tape all joints including the joining with the floor covering with duct tape. Each layer of wall poly will be hung independent from the other. As a maximum, the first layer shall be hung within 6" of the ceiling, the second layer shall be hung within 2" of the ceiling.

Cover all Ceilings in Work Area including "Critical Barrier" sheet plastic barriers with one (1) layer of polyethylene sheeting unless the ceiling surface is to be abated. Tape all joints including the joining with the wall covering with duct tape. If ceiling is to be abated disregard this paragraph.
Repair of Damaged Polyethylene Sheeting: Remove and replace plastic sheeting which has been damaged by removal operations or where seal has failed allowing water to seep between layers. Remove affected sheeting and wipe down entire area. Install new sheet plastic only when area is completely dry.

Tack Block: Upon repeated failure of critical, primary or secondary barriers, tack block shall be used to hold up polyethylene barriers as directed by the Owners Representative. The Contractor shall place all tack block in mortar joints at intervals necessary to keep the barriers in place. The Contractor shall repair all tack block holes at the completion of the project.

STOP WORK:

If the Critical or Primary barriers fall or are breached in any manner stop Work immediately. Do not start Work until repaired and authorized in writing by the Owner's Representative.

EXTENSION OF WORK AREA:

Extension of Work Area: If the Critical Barrier is breached in any manner that could allow the passage of asbestos debris or airborne fibers, then add affected area to the Work Area, enclose it as required by this Section of the specification and decontaminate it as described in Section 01711 Project Decontamination.

DROP CLOTH:

Provide an additional layer of 6 mil plastic as a drop cloth to protect the primary and secondary layers on floors from debris generated by the asbestos abatement Work.

END OF SECTION 01526
SECTION 01560 - WORKER PROTECTION - ASBESTOS ABATEMENT

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions, Supplementary General Conditions, and other Division-1 Specification Sections, apply to Work of this Section.

DESCRIPTION OF WORK:

This Section describes the equipment and procedures required for protecting workers against asbestos contamination and other workplace hazards except for respiratory protection.

RELATED WORK SPECIFIED ELSEWHERE:

Respiratory Protection: is specified in Section 01562.

WORKER TRAINING:

AHERA Accreditation: All workers are to be accredited as Abatement Workers as required by the AHERA regulation 40 CFR 763 Appendix C to Subpart E, April 30, 1987.

State and Local License: All workers are to be trained, certified and licensed to do abatement Work in the State of Colorado and must have current certificates as evidence of this training.

Train all workers in the dangers inherent in handling asbestos and breathing asbestos dust and in proper Work procedures and personal and area protective measures in accordance with 29 CFR 1926

MEDICAL EXAMINATIONS:

Provide medical examinations for all workers who may encounter an airborne fiber level of 0.1 f/cc or greater for an 8 hour Time Weighted Average. In the absence of specific airborne fiber data provide medical examinations for all workers who will enter the Work Area for any reason. Examination shall as a minimum meet OSHA requirements as set forth in 29 CFR 1926. In addition, provide an evaluation of the individual's ability to work in environments capable of producing heat stress in the worker.

SUBMITTALS:

Before Start of Work: Submit the following to the Owner's Representative for review.

AHERA Accreditation: Submit copies of certificates from an EPA-approved AHERA Abatement Workers course for each worker as evidence that each asbestos Abatement Worker is
accredited as required by the AHERA Regulation 40 CFR 763 Appendix C to Subpart E, April 30, 1987.

State and Local License: Submit evidence that all workers have been trained, certified and licensed to do abatement Work in the State of Colorado.

Report from Medical Examination conducted within last 12 months as part of compliance with OSHA medical surveillance requirements for each worker who is to enter the Work Area. Submit, at a minimum, for each worker the following:

Name and Social Security Number

Physicians Written Opinion from examining physician including at a minimum the following:

Whether worker has any detected medical conditions that would place the worker at an increased risk of material health impairment from exposure to asbestos.

Any recommended limitations on the worker or on the use of personal protective equipment such as respirators.

Statement that worker is able to wear and use the type of respiratory protection proposed for the project, and is able to work safely in an environment capable of producing heat stress in the worker.

Provide to the Owner's Representative an alphabetical listing of all workers on the job site including their name, expiration date of certificates, training, and physical examinations.

PART 2 - EQUIPMENT

PROTECTIVE CLOTHING:

Coveralls: Provide disposable full-body coveralls and disposable head covers, and require that they be worn by all workers in the Work Area. Provide a sufficient number for all required changes, for all workers in the Work Area.

Boots: Provide work boots with non-skid soles, and where required by OSHA, foot protection for all workers. Do not allow boots to be removed from the Work Area for any reason, after being contaminated with asbestos containing material. Dispose of boots as asbestos contaminated waste at the end of the Work, or thoroughly clean and decontaminate the boots and seal in 6 mil plastic bags prior to removing from the Work Area.

Goggles: Provide eye protection (goggles) as required by OSHA for all workers involved in scraping, spraying, or any other activity which may potentially cause eye injury. Thoroughly clean, decontaminate and bag goggles before removing them from Work Area at the end of the Work.
Gloves: Provide work gloves to all workers and require that they be worn at all times in the Work Area. Do not remove gloves from Work Area. Dispose of gloves as asbestos contaminated waste at the end of the Work.

Hardhats: Provide hardhats to all workers and require that they be worn at all times in the Work Area and on the job site.

ADDITIONAL PROTECTIVE EQUIPMENT:

Respirators, disposable coveralls, head covers, and footwear covers shall be provided by the Contractor for the Owner, Owner's Representative, and other authorized representatives who may inspect the job site.

PART 3 - EXECUTION

GENERAL:

Provide worker protection as required by the most stringent OSHA and/or EPA standards applicable to the Work. The following procedures are minimums to be adhered to regardless of fiber count in the Work Area.

Each time Work Area is entered remove all street clothes in the Changing Room of the Personnel Decontamination Unit and put on new disposable coverall, new head cover, and a clean respirator. Proceed through shower room to equipment room and put on work boots and hard hat.

DECONTAMINATION PROCEDURES:

Require all workers to adhere to the following personal decontamination procedures whenever they leave the Work Area.

Type C Supplied Air or Powered Air-Purifying Respirators: Require that all workers use the following decontamination procedure as a minimum requirement whenever leaving the Work Area.

When exiting area, remove disposable coveralls, disposable head covers, and disposable footwear covers or boots in the Equipment Room.

Still wearing respirators, proceed to showers. Showering is mandatory. Care must be taken to follow reasonable procedures in removing the respirator to avoid asbestos exposure while showering. The following procedure is required as a minimum:

Thoroughly wet body including hair and face. If using a Powered Air-Purifying Respirator (PAPR) hold blower unit above head to keep canisters dry.

With respirator still in place thoroughly wash body, hair, respirator face piece, and all parts of the respirator except the blower unit and battery pack on a PAPR. Pay particular attention to seal between face and respirator and under straps.
Take a deep breath, hold it and/or exhale slowly, completely wet hair, face, and respirator. While still holding breath, remove respirator and hold it away from face before starting to breathe. Carefully wash face piece of respirator inside and out.

If using PAPR: shut down in the following sequence, first cap inlets to filter cartridges, then turn off blower unit (this sequence will help keep debris which has collected on the inlet side of filter from dislodging and contaminating the outside of the unit). Thoroughly wash blower unit and hoses. Carefully wash battery pack with wet rag.

Shower completely with soap and water.

Rinse thoroughly.

Rinse shower room walls and floor prior to exit.

Proceed from shower to Changing Room and change into street clothes or into new disposable work items.

**Air Purifying-Negative Pressure Respirators:** Require that all workers use the following decontamination procedure as a minimum requirement whenever leaving the Work Area with a half or full face cartridge type respirator:

When exiting area, remove disposable coveralls, disposable headcovers, and disposable footwear covers or boots in the Equipment Room.

Still wearing respirators, proceed to showers. Showering is mandatory. Care must be taken to follow reasonable procedures in removing the respirator and filters to avoid asbestos exposure while showering. The following procedure is required as a minimum:

Thoroughly wet body from neck down. Wet hair as thoroughly as possible without wetting the respirator filter if using an air purifying type respirator.

Take a deep breath, hold it and/or exhale slowly, complete wetting of hair, thoroughly wetting face, respirator and filter (air purifying respirator). While still holding breath, remove respirator and hold it away from face before starting to breathe.

Dispose of wet filters from air purifying respirator.

Carefully wash face piece of respirator inside and out.

Shower completely with soap and water.

Rinse thoroughly.

Rinse shower room walls and floor prior to exit.
Proceed from shower to Changing Room and change into street clothes or into new disposable work items.

**Remote Shower:** The procedures above are to be used if the decontamination facility is used as a remote shower. If a worker cannot gain direct access to the Equipment Room require that he enter Decontamination Unit and proceed directly through Shower Room to Equipment Room. Decontamination procedures are then completed as required above.

**Within Work Area:**

Require that workers **NOT** eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the Work Area or Clean Room. To eat, chew, or drink, workers shall follow the procedure described above, then dress in street clothes before entering the non-Work Areas of the building. Use of tobacco products is prohibited on all school property.

**END OF SECTION 01560**
SECTION 01562 - RESPIRATORY PROTECTION

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions, Supplementary General Conditions, and other Division-1 Specification Sections, apply to Work of this Section.

DESCRIPTION OF WORK:

Instruct and train each worker involved in abatement of friable asbestos containing materials in proper respiratory use and require that each worker always wear a respirator, properly fitted on the face in the Work Area from the start of any operation which may cause airborne asbestos fibers until the Work Area is completely decontaminated. Use respiratory protection appropriate for the fiber level encountered in the workplace or as required for other toxic or oxygen-deficient situations encountered.

STANDARDS:

Except to the extent that more stringent requirements are written directly into the Contract Documents, the following regulations and standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies were bound herewith. Where there is a conflict in requirements set forth in these regulations and standards, meet the more stringent requirement.

OSHA - U.S. Department of Labor Occupational Safety and Health Administration, Safety and Health Standards 29 CFR 1910, Section 1001 and Section 1910.134. 29 CFR 1926.1101.

NIOSH - National Institute for Occupational Safety and Health

MSHA - Mine Safety and Health Administration

SUBMITTALS:

System Diagram: When a Type "C" supplied air respiratory system is required by the Work, submit drawing showing assembly of components into a complete supplied air respiratory system. Include diagram showing location of compressor, filter banks, backup air supply tanks, hose line connections in Work Area(s), routing of air lines to Work Area(s) from compressor. This diagram shall be part of the Contractor's Action Plan.

Respiratory Protection Program: Submit Contractor's written respiratory protection program as required by OSHA.

Product Data: Submit manufacturer's product information for each component used, including NIOSH and MSHA Certifications for each component in an assembly and/or for entire assembly.
AIR QUALITY FOR SUPPLIED AIR RESPIRATORY SYSTEMS:

Provide air used for breathing in Type "C" supplied air respiratory systems that meets or exceeds standards set for C.G.A. Type 1 (Gaseous Air) Grade D.

ALLOWABLE CONTAMINANTS:

Supply air that has an asbestos concentration no greater than outside ambient conditions.

PART 2 - EQUIPMENT

AIR PURIFYING RESPIRATORS:

Respirator Bodies: Provide half face or full face type respirators.

Filter Cartridges: Provide, at a minimum, HEPA type filters labeled with NIOSH and MSHA Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color coded in accordance with industry standards.

Non-permitted respirators: Do not use single use, disposable or quarter face respirators.

Air Quality for Air Purifying Respirators: If air-purifying respirators are used by anyone in the Work Area, the Contractor must ensure that the oxygen content in the air meets or exceeds standards set forth in C.G.A. Type 1 (Gaseous Air) Grade D.

SUPPLIED AIR RESPIRATOR SYSTEMS:

Provide equipment capable of producing air of the quality and volume required by the above reference standards applied to the job site conditions and crew size. Comply with provisions of this specification if more stringent than the governing standard.

Face Piece and Hose: Provide full face piece and hose by same manufacturer that has been certified by NIOSH/MSHA as an approved Type "C" respirator assembly operating in pressure demand mode with a positive pressure face piece.

Auxiliary backup system: In atmospheres which contain sufficient oxygen (greater than or equal to 19.5% oxygen) provide a pressure-demand full face piece supplied air respirator equipped with an emergency back up HEPA filter.

Warning device: Provide a warning device that will operate independently of the building's power supply. Locate so that alarm is clearly audible above the noise level produced by equipment and Work procedures in use, in all parts of the Work Area and at the compressor. Connect alarm to warn of compressor shut down or other fault requiring use of backup air supply.
Compressor Motor: Provide a compressor driven by an electric motor. Do not use gas or diesel engines to drive compressor. Insure that electrical supply available at the Work site is adequate to energize motor.

Compressor Location: Locate compressor outside of building in location that will not impede access to the building, and that will not cause a nuisance by virtue of noise or fumes to occupied portions of the building.

Air Intake: Locate air intake remotely from any source of automobile exhaust or any exhaust from engines, motors, auxiliary generator or buildings.

After-Cooler: Provide an after-cooler at entry to filter system which is capable of reducing temperatures to outside ambient air temperatures.

PART 3 - EXECUTION

GENERAL:


Require that a respirator be worn by anyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause airborne fibers until the area has been cleared for re-occupancy in accordance with Section 01714. Failure to comply with this provision will constitute grounds to deny the employee access to the site of the work.

Regardless of Airborne Fiber Levels, require that the minimum level of respiratory protection used be half-face air-purifying respirators with high efficiency filters.

FIT TESTING:

Initial Fitting: Provide initial fitting of respiratory protection during a respiratory protection training course. Fit types of respirator to be actually worn by each individual. Allow an individual to use only those respirators for which training and fit testing have been provided. Provide documentation of qualitative fit testing as required by OSHA 29 CFR 1910 and 1926. Upon Each Wearing, require that each time an air-purifying respirator is put on it be checked for fit with a positive and negative pressure fit test in accordance with the manufacturer's instructions. This requirement includes supplied air systems which employ negative pressure emergency systems.

NOTE: Qualitative fit test shall be performed for both negative pressure and supplied air systems which use a negative pressure emergency backup system.

TYPE OF RESPIRATORY PROTECTION REQUIRED:

Provide Respiratory Protection suitable for the conditions expected or encountered on the Project. The Contractor is responsible to select and provide respiratory protection systems which will adequately protect workers for the exposure levels encountered. The Contractor shall
be prepared at all times to show the Owner's Representative that the type of respiratory protection is appropriate for asbestos fiber levels in all parts of the Work Area.

PERMISSIBLE EXPOSURE LIMIT (PEL):

8-Hour Time Weighted Average (TWA) of asbestos fibers to which any worker may be exposed shall not exceed the following.

Fibers: For purposes of this Section, fibers are defined as all fibers regardless of composition as counted in NIOSH 7400 procedure.

- Time Weighted Average (TWA) - 0.1 fibers/cubic centimeter

AIR PURIFYING RESPIRATORS:

Negative pressure - half or full face mask: Supply a sufficient quantity of respirator filters approved for asbestos, so that workers can change filters during the work day. Require that respirators be wet-rinsed, and filters discarded, each time a worker leaves the Work Area. Require that new filters be installed each time a worker re-enters the Work Area. Store respirators and filters at the job site in the Changing Room and protect totally from exposure to asbestos prior to their use.

Powered air purifying - full face mask: Supply a sufficient quantity of high efficiency respirator filters approved for asbestos so that workers can change filters at any time that flow through the face piece decreases to the level at which the manufacturer recommends filter replacement. Require that regardless of flow, filter cartridges be replaced after 40 hours of use. Require that HEPA elements in filter cartridges be protected from wetting during showering. Require entire exterior housing of respirator, including blower unit, filter cartridges, hoses, battery pack, face mask, belt, and cords, are washed each time a worker leaves the Work Area.

TYPE "C" RESPIRATOR:

Air Systems Monitor: Continuously monitor the air system operation including compressor operation, filter system operation, backup air capacity and all warning and monitoring devices at all times that system is in operation.

END OF SECTION 01562
SECTION 01563 - DECONTAMINATION UNITS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions, Supplementary General Conditions, and other Division-1 Specification sections, apply to Work of this Section.

DESCRIPTION OF WORK:

Provide separate Personnel and Equipment Decontamination facilities. Require that the Personnel Decontamination Unit be the only means of ingress and egress for the Work Area. Require that all materials exit the Work Area through the Equipment Decontamination Unit.

RELATED WORK SPECIFIED ELSEWHERE:

Refer to Section 01503 Temporary Facilities for requirements relative to connection of decontamination facilities to building systems such as water, sewer, and electrical.

SUBMITTALS:

Before the Start of Work: Submit the following to the Owner's Representative for review. Do not begin Work until these submittals are reviewed by Owner's Representative.

Personnel Decontamination Unit: Provide a drawing showing location and assembly of personnel decontamination units.

Equipment Decontamination Unit: Provide a drawing showing location and assembly of equipment decontamination units.

PART 2 - PRODUCTS

Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 6 mil thick, clear, frosted, or black as required by job conditions.

Duct Tape: Provide duct tape in 2” or 3” widths.

Filters: Provide cascaded filter units on drain lines from showers or any other water source carrying asbestos contaminated water from the Work Area. Provide units with disposable filter elements as indicated below. Connect so that discharged water passes primary filter and output of primary filter passes through secondary filter. Provide a written log posted by the shower pump and record every filter change. Submit a copy of log to the Owner's Representative at the completion of the project.

Primary Filter - Passes particles 20 microns and smaller
Secondary Filter - Passes particles 5 microns and smaller

**Decon/Airlock Doors:** Construct flaps of three (3) layers of alternately attached 6 mil poly sheeting. Hard wood or metal doors that restrict air flow through the decon unit are prohibited.

**Shower Stall:** Provide leak tight shower enclosure with integrated drain pan fabricated from fiberglass or other durable waterproof material, approximately 3’x 3’ square with minimum 6' high sides and back. Structurally support as necessary for stability. Connect drain to a reservoir, pump water from reservoir through filters before releasing to a sanitary sewer drain.

**Disposable Towels:** Supply a sufficient amount of disposable paper towels for drying during the showering/decontamination sequence.

**Disposable Pop-up Chambers:** Pre-manufactured 3’x3’ disposable pop-up decon chambers may be used in place of field constructed decon chambers, under the following provisions:

- Provide only new pre-manufactured disposable decon chambers. Reuse of disposable pre-manufactured decon chambers from other projects is strictly prohibited.
- Factory supplied airlock flaps shall be removed and replaced, or modified, to meet the requirements for Flapped Doorways in this specification.

**PART 3 - EXECUTION**

**PERSONNEL DECONTAMINATION UNIT:**

Provide a Personnel Decontamination Unit consisting of a serial arrangement of connected rooms or spaces, Change Room, Airlock, Shower Room, Airlock, and Equipment Room. Require all persons without exception to pass through this Decontamination Unit for entry into and exiting from the Work Area for any purpose. Do not allow parallel routes for entry or exit. Do not remove equipment or materials through Personnel Decontamination Unit.

Provide temporary lighting within Decontamination Units as necessary.

**Changing Room (Clean Room):** Provide a room that is physically and visually separated from the rest of the building for the purpose of changing into protective clothing.

- Construct using polyethylene sheeting at least 6 mil in thickness to provide an airtight seal between the Changing Room and the rest of the building.
- Locate so that access to Work Area from Changing Room is through Shower Room.
- Separate Changing Room from the building by a sheet plastic flapped doorway.
- Require workers to remove all street clothes in this room, dress in clean, disposable coveralls, and don respiratory protection equipment. Do not allow asbestos contaminated items to enter this room.
An existing room may be utilized as the Changing Room if it is suitably located and of a configuration whereby workers may enter the Changing Room directly from the Shower Room. Protect all surfaces of room with sheet plastic as set forth in Section 01526 Temporary Enclosures.

Maintain floor of Changing Room dry and clean at all times. Do not allow overflow water from shower to wet floor in airlocks or Changing Room.

Damp wipe all surfaces twice after each shift change with a disinfectant solution.

Provide posted information for all emergency phone numbers and procedures.

Airlock: Provide an airlock between Shower Room and Changing Room. This is a transit area for workers. Airlock must be a minimum of three (3) feet wide between the doorway of the Changing Room and doorway of the Shower Room.

Separate the Shower Room and Changing Room by 6 mil sheet plastic flapped doorways. Arrange so that there is a sensible movement of air from the Clean Room, through the breathing zone of workers in the shower, into the Equipment Room.

Shower Room: Provide a completely watertight operational shower to be used for transit by cleanly dressed workers heading for the Work Area from the Changing Room, or for showering by workers headed out of the Work Area after undressing in the Equipment Room.

Construct a catch basin, a minimum 2" taller and wider than the shower basin to catch overflow and spills from the shower.

Construct room by providing a shower pan and two (2) shower walls in a configuration that will cause water running down walls to drip into pan.

Separate this room from the rest of the building with airtight walls fabricated of 6 mil polyethylene.

Provide splash-proof entrances to Changing Room and Equipment Room with self-closing doors at each location.

Provide shower head and controls.

Provide temporary extensions of existing hot and cold water and drainage, as necessary for a complete and operable shower.

Provide a soap dish and a continuously adequate supply of soap and maintain in sanitary condition.

Arrange water shut off and drain pump operation controls so that a single individual can shower without assistance from either inside or outside of the Work Area and locate switch five (5) feet above the floor within reach of the shower on the Clean Room side and protected by GFI.
Pump waste water to sanitary sewer drain and provide 20 micron and 5 micron waste water filters in line to drain. Change filters daily or more often if necessary.

**Airlock:** Provide an airlock between Shower Room and Equipment Room. This is a transit area for workers. Airlock must be a minimum of three (3) feet wide between the shower doorway and the Equipment Room doorway.

**Equipment Room (contaminated area):** Require work equipment, footwear and additional contaminated work clothing to be left here. This is a change and transit area for workers.

Separate this room from the Work Area by a 6 mil sheet plastic flapped doorway. Separate this room from the rest of the building with airtight walls fabricated of 6 mil polyethylene.

Separate this room from the Shower Room and Work Area with airtight walls fabricated of 6 mil polyethylene.

Provide a drop cloth layer of sheet plastic on floor in the Equipment Room for every shift change expected. Roll drop cloth layer of plastic from Equipment Room into Work Area after each shift change. Replace before next shift change. Use only clear plastic to cover floors.

Separate the Equipment Room and Work Area by 6 mil sheet plastic flapped doorway. Arrange so that air movement is through the Equipment Room into the Work Area.

**Decontamination Sequence:** Require that all workers adhere to the following sequence when entering or leaving the Work Area.

**Entering Work Area:** Worker enters Changing Room and removes street clothing, puts on clean disposable overalls and respirator, and passes through the Shower Room into the Equipment Room.

Any additional clothing and equipment left in Equipment Room needed by the worker are put on in the Equipment Room.

Worker proceeds to Work Area.

**Exiting Work Area:**

Before leaving the Work Area, require the worker to remove all gross contamination and debris from overalls and feet.

The worker then proceeds to the Equipment Room and removes all clothing except respiratory protection equipment.

Extra work clothing such as boots, goggles, and gloves are to be stored in contaminated end of the Equipment Room.
Disposable coveralls are placed in a bag for disposal with other material.

Require that Decontamination procedures found in Section 01560 be followed by all individuals leaving the Work Area.
After showering, the worker moves to the Changing Room and dresses in either new coveralls for another entry or street clothes if leaving.

**Decontamination Sequence for Mini-Enclosure/Remote Shower:** Require that all workers adhere to the following sequence when using a remote shower for entering or leaving the Work Area.

- Maintain a bucket of clean potable water in the Work Area. Do not amend with a wetting agent.
- Remove contaminated suit inside the Work Area. Leave respirator in place.
- Wash hands, face, and surface of respirator with water and wet paper towels. Use caution to avoid breaking seal between respirator face piece and face.
- Proceed with respirator in place to Change Room.
- In Change Room don clean disposable suit leaving respirator in place.
- Exit Change Room being sure that the entry to the Change Room is completely closed. Proceed to next mini-enclosure or remote shower.
- At end of shift, or when proceeding to shower, decontaminate fully in accordance with the procedures outlined in Section 01560 - Worker Protection of the Specifications.

**EQUIPMENT DECONTAMINATION UNIT:**

Provide an Equipment Decontamination Unit consisting of a serial arrangement of rooms, Clean Room, Holding Room, and Wash Room for removal of equipment and material from Work Area. Do not allow personnel to enter or exit Work Area through Equipment Decontamination Unit.

Arrange with airlocks between rooms as required below.

**Washdown Station:** Provide a Washdown Station in the Work Area near the Wash Room to wash gross contamination from all items which will pass through the Equipment Decontamination Unit.

**Wash Room:** provide wash room for cleaning of bagged or containerized asbestos-containing waste materials exiting the Work Area. Construct wash room of nominal 2"x 2" wood framing and polyethylene sheeting at least 6 mil in thickness and located so that packaged materials, after being wiped clean, can be passed to the Holding Room or Clean Room.
Separate this room from the Work Area by flapped doors of 6 mil polyethylene sheeting.

**Airlock:** Provide an airlock between Wash Room and Holding Room or Clean Room. This is a transit area. The airlock shall be 6 mil sheet plastic flapped doorway arranged so that there is movement of air from the Clean Room into the Wash Room.

**Holding Room** (optional): Provide Holding Room as a drop location for bagged asbestos-containing materials passed from the Wash Room. Construct Holding Room of nominal 2"x 2" wood framing and polyethylene sheeting at least 6 mil in thickness.

Separate this room from the adjacent rooms by flap doors fabricated from 6 mil sheet plastic.

**Airlock:** Provide an airlock between Holding Room and Clean Room. This is a transit area. The airlock shall be a 6 mil plastic flapped doorway.

**Clean Room:** Provide Clean Room to isolate the Wash Room from the building.

Erect Critical and Primary Barriers as described in Section 01526 "Temporary Enclosures" in an existing space. If no space exists construct Clean Room of nominal 2"x 2" wood framing and polyethylene sheeting at least 6 mil in thickness.

Separate this room by flapped doorway of 6 mil polyethylene sheeting.

**Loadout Area:** The loadout area is the transfer area from the building to a truck or dumpster. It may be the Clean Room of the Equipment Decontamination unit or a separate room or loading dock area. Asbestos containing waste material shall not be stored within the building outside of the Work Area.

**Decontamination Sequence:** Take all equipment or material from the Work Area through the Equipment Decontamination Unit according to the following procedure. If the Work is to be performed within a secondary enclosure/mini-enclosure, substitute the 3'x 3' Change Room for the Wash Room described below.

At Washdown Station, thoroughly wet clean contaminated equipment or sealed polyethylene bags and pass into Wash Room.

When passing equipment or containers into the Wash Room, close all doorways of the Equipment Decontamination Unit other than the doorway between the Washdown Station and the Wash Room. Keep all outside personnel clear of the Equipment Decontamination Unit.

Once inside the washroom, wet wipe the bags and/or equipment. Following a thorough wet wipe of the bags immediately place bag in a second bag and seal with duct tape.
When cleaning is complete pass items into Holding Room or Clean Room. Close all doorways except the doorway between the Wash Room and the Clean Room.

Workers from the building exterior enter Holding Area and remove decontaminated equipment and/or containers for disposal.

Asbestos containing waste material to be moved distances greater than 50 feet (from waste loadout to dumpster/sealed truck) shall be transported in a covered cart.

CONSTRUCTION OF THE DECONTAMINATION UNITS:

For Decontamination Units that are to be constructed outside of a building, or otherwise in an un-secure location, construct Decontamination Units inside temporary enclosures, constructed of wood framing and sheathing material (1/2” minimum thickness). Framing and sheathing shall be constructed in a workman-like manner. Provide a hinged door, with hinges mounted inside of the temporary enclosure, and a secure padlock hasp and padlock. Temporary enclosures shall be protected from weather by securing 10 mil reinforced poly sheeting on the roof of the temporary enclosure.

Walls and Ceiling: Construct airtight walls and ceiling using polyethylene sheeting at least 6 mil in thickness. Attach to existing building components or a temporary framework.

Floors: Use two (2) layers (minimum) of 6 mil polyethylene sheeting to cover floors in all areas of the Decontamination Units. Use only clear plastic to cover floors. Protect wood floors with cardboard or masonite sheeting.

Flap Doors: Fabricated from three (3) overlapping sheets with openings a minimum of three feet (3’) wide. Configure so that sheeting overlaps adjacent surfaces. Weight sheets at bottoms as required so that they quickly close after being released. Put arrows on sheets to indicate direction of overlap and/or travel. Provide a minimum of three feet (3’) between entrance and exit of any room. Hard wood or metal doors that restrict air flow through the decon are prohibited.

Visual Barrier: Where the Decontamination area is immediately adjacent to, and within view of, occupied areas, provide a visual barrier of opaque polyethylene sheeting at least 6 mil in thickness so that worker privacy is maintained and Work procedures are not visible to building occupants.

Alternate methods of providing Decontamination facilities may be submitted to the Owner's Representative for approval. Do not proceed with any such method(s) without written authorization of the Owner's Representative.

Electrical: Connect all electrical branch circuits in Decontamination unit and particularly any pumps in Shower Room to a ground-fault circuit protection device.
CLEANING OF DECONTAMINATION UNITS:

Clean debris and residue from inside of Decontamination Units on a daily basis. Damp wipe or hose down all surfaces after each shift change. Clean debris from shower pans on a daily basis.

If the Changing Room of the Personnel Decontamination Unit becomes contaminated with asbestos-containing debris, abandon the entire Decontamination Unit and erect a new Decontamination Unit. Use the former Changing Room as the new Equipment Room.

SIGNS:

Post approximately 20 inch by 14 inch manufactured caution sign at each entrance to the Work Area displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926.

LEGEND:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED
IN THIS AREA

END OF SECTION 01563
SECTION 01711 - PROJECT DECONTAMINATION

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions, Supplementary General Conditions, and other Division-1 Specification Sections, apply to Work of this Section.

DESCRIPTION OF REQUIREMENTS:

General: Decontamination of the Work Area following asbestos abatement.

The decontamination Work is a multi-step procedure requiring two cleanings of the Primary Barrier plastic, visual inspection of the Work Area, lockdown, and cleaning of the room surfaces to remove any new or existing contamination.

The pressure differential system is used to remove airborne fibers generated by the abatement Work at all times during Project Decontamination.

RELATED WORK SPECIFIED ELSEWHERE:

Removal of Gross Debris is integral with the performance of abatement work and as such is specified in Section 02081 Removal of Asbestos Containing Materials.

Work Area Clearance: Air testing and other requirements which must be met before release of Contractor and re-occupancy of the Work Area are specified in Section 01714 Work Area Clearance.

PART 2 – PRODUCTS

Airless Sprayer: Provide an airless sprayer for the application of amended water, removal encapsulant, or lockdown encapsulant. A water hose and nozzle may not be substituted for an airless sprayer. The airless sprayer shall not be utilized as a cleaning device.

Cleaning Rags: Cloth rags are to be used during the project decontamination sequence. Paper towels are prohibited for Project Decontamination.

PART 3 - EXECUTION

GENERAL:

Work of This Section includes the decontamination of air in the Work Area which has been, or may have been, contaminated by the elevated airborne asbestos fiber levels generated during
abatement activities, or which may previously have had elevated fiber levels due to friable asbestos containing materials in the space.

**Work of This Section** includes the cleaning, decontamination, and removal of temporary facilities installed prior to abatement work, including:

- Primary and Critical Barriers erected by Work of Section 01526
- Decontamination Unit erected by Work of Section 01563
- Pressure Differential System installed by Work of Section 01513

**Work of This Section** includes the cleaning, and decontamination of all surfaces (ceiling, walls, and floors) of the Work Area, and any other surfaces or equipment in the Work Area.

**START OF WORK:**

**Previous Work:** During completion of the asbestos abatement work specified in other sections, the Secondary Barrier of polyethylene sheeting will have been removed and disposed of along with any gross debris generated by the asbestos abatement work.

**Start of Work:** Work of this Section begins with the cleaning of the Primary Barrier. At start of Work the following will be in place:

- **Primary Barrier:** One (1) layer of polyethylene sheeting on floor and one (1) layer on walls and ceiling.
- **Critical Barrier:** An airtight barrier between the Work Area and other portions of the building or the outside.
- **Critical Barrier Sheeting:** Over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers, light switches, cabinets, and other openings.
- **Decontamination Units:** For personnel and equipment in operating condition.
- **Pressure Differential System:** In operation.

**FIRST CLEANING:**

**First Cleaning:** Carry out a first cleaning of all surfaces of the Work Area including items of remaining sheeting, tools, scaffolding and/or staging by use of damp-cleaning and mopping, and/or a High Efficiency Particulate Air (HEPA) filtered vacuum. Continue this cleaning until there is no visible debris from removed materials or residue on plastic sheeting or other surfaces. WD-40, petroleum, or paraffin based solutions are prohibited for cleaning any surface in the Work Area.
Equipment Decontamination: Remove all dust and debris from tools, equipment, ladders, scaffold, and any other items used during the course of abatement. Do not remove items from the work area until they have been thoroughly cleaned.

If necessary, provide an equipment decontamination area, in which a catch basin is created in which to capture water generated in the equipment decontamination process. This catch basin shall be equipped with a dedicated water pump and filtration system for removing filtered wastewater from the work area. Wastewater from this basin shall not be placed in the personnel decontamination unit, for disposal through this pump and filtration system. This practice is strictly prohibited.

Remove All Filters in Air Handling System(s) and dispose of as asbestos containing waste in accordance with requirements of Section 02084 Disposal of Asbestos Containing Waste Material. Thoroughly HEPA vacuum all non-disposable filters.

VISUAL INSPECTION: After the first cleaning the Contractor, accompanied by the Owner’s Representative, shall perform a complete visual inspection of the entire Work Area including; all surfaces, ceiling, walls, floor, decontamination unit, all plastic sheeting, seals over ventilation openings, look for debris from any sources, residue on surfaces, dust or other matter. If any debris, residue, dust or other matter is found, repeat first cleaning and continue decontamination procedure from that point.

As a part of the visual inspection, sweep entire Work Area including walls, ceilings, ledges, floors and other surfaces in the Work Area with exhaust from forced air equipment (leaf blower with approximately 1 horse power electric motor or equivalent). Do not direct forced air equipment at any seal or critical barrier. If any debris or dust is found, repeat the cleaning in the affected area. The leaf blower is used to aid in the visual inspection process. The leaf blower must be supplied by the Contractor and will not be the same blower used for Work Area clearance.

Temporary lighting: Provide adequate lighting on all surfaces in the areas to be subjected to visual inspection.

Lifts: Provide ladders, scaffolding and lifts as required to provide access to all surfaces in the area to be subjected to visual inspection.

Certificate of Final Visual Inspections: The first visual inspection process is not complete until relevant portions of the certificate at the end of this section are filled out by the Contractor and signed by the Owner's Representative.

AIRBORNE FIBER CONCENTRATION: Airborne fiber concentrations will be closely monitored during the time leading up to the visual inspection. If the daily area and personnel monitoring show the fiber concentration to be at or below established base line or background level, as determined in Section 01410 of this specification, project decontamination can proceed.
LOCKDOWN:

Encapsulation of substrate (Lockdown): Perform encapsulation of substrate at this time. Maintain Pressure Differential System in operation during encapsulation work. Perform Work only after meeting the following requirements:

Surfaces to be covered have passed the requirements of a visual inspection and Airborne Fiber Concentrations from this Section.

The Certification of Visual Inspection form included in the back of this section has been signed by all parties.

Follow the Lockdown procedures outlined in Section 09805 of this Specification - Encapsulation of Abated Surfaces.

After the Lockdown has dried, remove all primary barrier sheeting from the Work Area, leaving only:

Critical Barrier: forms the sole barrier between the Work Area and other portions of the building or the outside.

Critical Barrier Sheeting: Over lighting fixtures and clocks ventilation openings, doorways, convectors, speaker, and other openings.

Decontamination Unit: For personnel, in operating condition and waste loadout unit.

Pressure Differential System: Maintain in continuous operation.

Disposal of Asbestos Containing Waste: Ensure all asbestos containing waste is properly packaged for disposal and removed from the Work Area to the waste trailer.

FINAL CLEANING:

Final Cleaning: Carry out a final cleaning of all surfaces in the Work Area in the same manner as the previous cleaning. This cleaning is now being applied to existing room surfaces. Take care to avoid damage to existing surfaces.

Final Visual Inspection: After the final cleaning, conduct a final visual inspection of the Work Area using the same procedures as outlined under Visual Inspection. The primary focus of this inspection will be areas which were concealed by the Primary Barriers.

Certificate of Final Visual Inspections: The final visual inspection process is not complete until relevant portions of the certificate at the end of this section are filled out by the Contractor and signed by the Owner's Representative.

Contractor's Testing: At completion of this inspection sweep entire Work Area including walls, ceilings, ledges, floors and other surfaces in the Work Area with exhaust from forced air equipment (leaf blower with approximately 1 horsepower electric motor or equivalent). Do not direct forced air equipment at any seal or critical barrier. If any debris or dust is found repeat...
the final cleaning. Continue this process until no debris dust or other material is found while sweeping of all surfaces with forced air equipment.

**Wait 96 Air Changes** to allow HEPA filtered fan units to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of Work Areas during this period. Maintain Pressure Differential System in operation for the entire 96 air change period.

**FINAL AIR SAMPLING TEM:**

**Transmission Electron Microscopy (TEM):** After the Work Area is found to be visually clean, TEM air samples will be collected and analyzed in accordance with the procedure for Transmission Electron Microscopy set forth in Section 01714 Work Area Clearance.

   If Release Criteria are not met, repeat Final Cleaning and continue Decontamination procedure from that point.

   If Release Criteria are met, proceed with Removal of Work Area Isolation.

**FINAL AIR SAMPLING PCM:**

**Phase Contrast Microscopy (PCM):** After the Work Area is found to be visually clean, air samples will be taken and analyzed in accordance with the procedure for Phase Contrast Microscopy set forth in Section 01714 Work Area Clearance:

   If Release Criteria are not met, repeat Final Cleaning and continue Decontamination Procedure from that point.

   If Release Criteria are met, proceed with Removal of Work Area Isolation.

**REMOVAL OF WORK AREA ISOLATION:**

After all requirements of this Section and Section 01714 Work Area Clearance have been met:

Shut down and remove the Pressure Differential System. Seal HEPA filtered fan units, HEPA vacuums and similar equipment with 6 mil polyethylene sheet and duct tape to form a tight seal at intake end before being moved from Work Area. Refer to Section 01513.

Remove Personnel Decontamination Unit.

Remove the Critical Barriers separating the Work Area from the rest of the building. Remove any small quantities of residual material found upon removal of the plastic sheeting with wet wiping, HEPA filtered vacuum cleaners and local area protection.

Remove all equipment, materials, and debris from the Work site.
Dispose of all asbestos containing waste material as specified in Section 02084 Disposal of Asbestos Containing Waste Material.

COMPLETION OF ABATEMENT WORK:

Asbestos Abatement Work is Complete upon meeting the requirements of this Section and Section 01714 Work Area Clearance, including submission of:

- Certificate of Final Visual Inspection
- Receipts Documenting proper disposal as required by Section 02084 Disposal of Asbestos Containing Waste Material.
- Punchlist detailing repairs to be made and incomplete items.

CERTIFICATE OF FINAL VISUAL INSPECTIONS:

Following this Section is a "Certificate of Final Visual Inspections". This certification is to be completed by the Contractor and certified by the Owner’s Representative and Air Sampling Professional. Final payment will not be made until this Certification is executed.

END OF SECTION 01711
CERTIFICATION OF FINAL VISUAL INSPECTIONS
Project Name: 
Project Address: 
RLH Engineering Project Number: 
Work Area: 
Date of First Visual Inspection: ___/___/____ (Criticals and Primary Barrier Intact)
Date of Final Visual Inspection: ___/___/____ (Criticals and Work Area Surfaces)

CONTRACTOR’S CERTIFICATION
In accordance with Section 01711 "Project Decontamination" the Contractor hereby certifies that he has visually inspected the Work Area (all surfaces including pipes, beams, ledges, walls, ceiling and floor, Decontamination Unit, sheet plastic, etc.) and has found no dust, debris or residue.

by: (Signature)
(Print Name) 
(Print Title) 

AIR SAMPLING PROFESSIONAL’S CERTIFICATION
The Air Sampling Professional hereby certifies that he has accompanied the Contractor on his visual inspection and verifies that this inspection has been thorough and to the best of his knowledge and belief, the Contractor's Certification above is a true and honest one.

by: (Signature)
(Print Name) 
(Print Title) 

AGGRESSIVE AIR CLEARANCE SAMPLING - WORK AREA CALCULATIONS
Box Fans (Quantity) - 1 Box Fan req./10,000 CF
Work Area Volume = L x W x H

Work Area Volume = _____ (L) x _____ (W) x _____ (H) = _____ CF

# Req. Box Fans = _____ CF/10,000 CF = _______ Box Fans
(Round answer up to nearest Whole Number)

Leaf Blower (Time) – Leaf Blow 5 Mins./1,000 SF Work Area

Work Area = _____ (L) x _____ (W) = ______ SF

Leaf Blow Time = ______ SF x 5 mins/1,000SF = _______ Mins.
(Round answer up to nearest Whole Number)
PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions, Supplementary General Conditions, and other Division - 1 Specification Sections, apply to Work of this Section.

  Visual Inspection: required as a prerequisite of air testing, is set forth in Section 01711 Project Decontamination.

  Air Monitoring: performed by the Owner during abatement work, is described in Section 01410 Test Laboratory Services.

SUMMARY:

Not in Contract Sum: This Section describes Work being performed by the Owner. This Work is not in the Contract Sum.

This Section sets forth required post-abatement airborne asbestos concentrations in the Work Area and describes testing procedures the Owner will use to measure these levels.

CONTRACTOR RELEASE CRITERIA:

The Asbestos Abatement Work Area is Cleared when the Work Area is visually clean and airborne asbestos structure concentrations have been reduced to the level specified below.

VISUAL INSPECTION:

Work of this Section will not begin until the visual inspection described in Section 01711 Project Decontamination is complete and has been certified by the Owner's Representative.

AIR MONITORING:

To determine if the elevated airborne asbestos structure concentration encountered during abatement operations has been reduced to the specified level, the Owner will secure samples and analyze them according to PCM or TEM protocols as described in this Section.

Work Area Clearance: Upon meeting the Clearance requirements, the Work of Section 01711 Project Decontamination can continue.

AGGRESSIVE SAMPLING:

All Air Samples will be taken using aggressive sampling techniques as follows:
Before sampling pumps are started the exhaust from forced-air equipment (leaf blower with an approximately 1 horsepower electric motor) will be swept against all walls, ceilings, floors, ledges and other surfaces in the room. This procedure will be continued for five (5) minutes per 10,000 cubic feet of room volume.

One 20 inch diameter fan per 10,000 cubic feet of room volume will be mounted in a central location at approximately two (2) meters above floor, directed toward ceiling and operated at low speed for the entire period of sample collection.

Air samples will be collected in areas subject to normal air circulation away from room corners, obstructed locations, and sites near windows, doors, and vents.

After air sampling pumps have been shut off, fans will be shut off.

SCHEDULE OF AIR SAMPLES:

General: The number and volume of air samples taken and analytical methods used by the Owner will be in accordance with the following schedule. Sample volumes given may vary depending upon the analytical instruments used.

PHASE CONTRAST MICROSCOPY:

In each homogeneous Work Area after completion of all cleaning Work, a minimum of five (5) samples will be taken and analyzed as follows:

Samples will be collected on 25 mm. cassettes with the following filter media:

PCM: 0.8 mixed cellulose ester in a cassette with a conductive extension cowl.

<table>
<thead>
<tr>
<th>Location Sampled</th>
<th>Number of Samples</th>
<th>Analysis Method</th>
<th>Detection Limit Fibers/cc</th>
<th>Minimum Volume (Liters)</th>
<th>Rate LPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each Work Area</td>
<td>5</td>
<td>PCM</td>
<td>0.01</td>
<td>1,200</td>
<td>1-10</td>
</tr>
<tr>
<td>or Each Room of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Area</td>
<td>1</td>
<td>PCM</td>
<td>0.01</td>
<td>1,200</td>
<td>1-10</td>
</tr>
<tr>
<td>(5 min.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Area Blank</td>
<td>1</td>
<td>PCM</td>
<td>0.01</td>
<td>0</td>
<td>Open for 30 seconds</td>
</tr>
<tr>
<td>Laboratory Blank</td>
<td>1</td>
<td>PCM</td>
<td>0.01</td>
<td>0</td>
<td>Do Not Open</td>
</tr>
</tbody>
</table>

Fibers referred to in this Section include fibers regardless of composition as counted by the phase contrast microscopy method used.

**Split Sample:** One Work Area sample will be split and both halves analyzed separately for duplicate analysis.

**Release Criteria:** Decontamination of the Work site is complete when every Work Area sample is at or below the Detection Limit above. If these conditions are not met then the decontamination is incomplete and the cleaning procedures of Section 01711 shall be repeated. The Owner shall pay for the first set of PCM sample collection and analysis. The Contractor shall be required to pay all costs for sample collection and analysis of subsequent PCM samples if the first set of PCM samples fails to meet the clearance requirements specified above in each Work Area.

**TRANSMISSION ELECTRON MICROSCOPY:**

In each homogeneous Work Area after completion of all cleaning Work, a minimum of 13 samples will be taken and analyzed as follows:

Samples will be collected on 25 mm. cassettes with the following filter media:

TEM: 0.45 micrometer mixed cellulose ester with 5.0 micron mixed cellulose ester backing filter in a cassette with a conductive extension cowl.

<table>
<thead>
<tr>
<th>Location Sampled</th>
<th>Number of Samples</th>
<th>Analysis Method</th>
<th>Analytical Sensitivity Fibers/cc.</th>
<th>Recommended Volume (Liters)</th>
<th>Rate LPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each Work Area</td>
<td>5</td>
<td>TEM</td>
<td>0.005</td>
<td>1,300-1,800</td>
<td>1-10</td>
</tr>
<tr>
<td>Outside Each Work Area</td>
<td>5</td>
<td>TEM</td>
<td>0.005</td>
<td>1,300-1,800</td>
<td>1-10</td>
</tr>
<tr>
<td>Work Area Blank</td>
<td>1</td>
<td>TEM</td>
<td>0.005</td>
<td>0</td>
<td>Open For 30 Sec.</td>
</tr>
<tr>
<td>Outside Blank</td>
<td>1</td>
<td>TEM</td>
<td>0.005</td>
<td>0</td>
<td>Open For 30 Sec.</td>
</tr>
<tr>
<td>Laboratory Blank</td>
<td>1</td>
<td>TEM</td>
<td>0.005</td>
<td>0</td>
<td>Do Not Open</td>
</tr>
</tbody>
</table>

Analysis will be performed using the analysis method set forth in the AHERA Regulation 40 CFR Part 763 Appendix A.
Asbestos Structures referred to in this Section include asbestos fibers, bundles, clusters or matrices, as defined by method of analysis.

Release Criteria: Decontamination of the Work Site is complete when the following conditions are met:

**Work Area Samples are below filter background levels**

All Work Area sample volumes are greater than 1,199 liters for a 25 mm. sampling cassette.

The concentration of asbestos on every Work Area Sample does not exceed the filter background level of 70 structures per square millimeter of filter area.

If these conditions are not met then the decontamination is incomplete and the cleaning procedures of Section 01711 shall be repeated. The Owner shall pay for the first set of TEM sample collection and analysis. The Contractor shall be required to pay all costs for sample collection and analysis of subsequent TEM samples if the first set of TEM samples fails to meet the clearance requirements specified above in each Work Area.

Termination of Analysis: If the arithmetic mean (average) asbestos concentration on the blank filters exceeds 70 structures per square millimeter of filter area the analysis will cease and new samples collected.

LABORATORY TESTING:

**PHASE CONTRAST MICROSCOPY:**

The services of a testing laboratory will be employed by the Owner to perform laboratory analysis of the air samples. A microscope and technician will be set up at the job site, or samples will be sent daily by courier so that verbal reports on air samples can be obtained within 24 hours. A complete record, certified by the testing laboratory, of all air monitoring tests and results will be furnished to the Owner’s Representative, the Owner and the Contractor upon request.

**TRANSMISSION ELECTRON MICROSCOPY:**

Samples will be sent by courier for analysis by Transmission Electron Microscopy. Verbal results will normally be available within 24 hours after receipt of samples by the laboratory. The laboratory is capable of analyzing a maximum of 13 such samples from this Project at any one time. All Transmission Electron Microscopy results will be available to the Contractor upon request.
PART 2 - PRODUCTS
Not Applicable

PART 3 - EXECUTION
Not Applicable

END OF SECTION 01714
SECTION 02062 - NON-ASBESTOS DEMOLITION

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions, Supplementary General Conditions, and Division-1 Specification Sections, apply to Work of this Section.

DESCRIPTION OF WORK:

Decontaminated Materials:

The following non-asbestos containing materials are to be removed, decontaminated, and reinstalled, as work of this Section.

N/A

The following non-asbestos containing materials are to be protected in place, as work of this Section.

Unit ventilators, windows, wardrobe cabinets not identified for demolition, doors not identified for demolition, materials and finishes not identified for demolition

The following non-asbestos containing materials are to be removed, cleaned, and returned to the Owner in good Condition:

N/A

The following non-asbestos containing materials are to be removed and disposed of, as work of this Section.

Toilets, sinks, vanities (components that can be removed without disturbance to drywall), wardrobe cabinets identified for demolition.

JOB CONDITIONS:

Occupancy: Other Contractors will be occupying areas of the building immediately adjacent to areas of selective demolition. Conduct selective demolition work in manner that will minimize need for disruption of other construction activities.

Protection: Provide temporary barricades and other forms of protection as required to protect Owner's personnel and general public from injury due to selective demolition work.

Protect from damage existing finish Work that is to remain in place and becomes exposed during demolition operations.
Protect floors with suitable coverings where necessary.

Remove protection at completion of Work, unless otherwise specified.

**Shoring and Bracing:** Provide necessary temporary shoring and bracing to support and protect portions of the existing building during demolition and abatement operations. Such shoring shall be left in place until permanent supports have been installed. The Contractor shall be solely responsible for the design, safety, and adequacy of temporary shoring and bracing and its ability to carry the load for which intended.

Cease operations and notify Owner's Representative immediately if safety of structure appears to be endangered. Take precautions to support structure. Do not remove supports until safety of structure is restored.

**Damages:** Promptly repair damages caused to adjacent facilities by demolition work at no cost to Owner. The Owner or Owner’s Representative reserves the right to solicit other contractors to perform repair work.

**Explosives:** Use of explosives will not be permitted.

**Heavy Machinery:** Use of Bobcats, jack hammers, heavy demolition equipment will not be permitted.

**Utility Services:** Maintain existing utilities indicated to remain, keep in service, and protect against damage during demolition operations.

**PART 2 - PRODUCTS**

**MATERIALS TO BE REUSED:**

Materials, specialty items, equipment, casework, systems, light fixtures, and components scheduled or noted to be reused, shall be carefully removed, cleaned, and stored at the site for later reinstallation. Damage caused during removal, storage, or reinstallation shall be repaired to the satisfaction of the Owner's Representative, at no cost to the Owner. The Owner or Owner's Representative reserves the right to solicit other contractors to perform repair work.

**ITEMS TO BE REMOVED BY THE OWNER:**

Items that are removed prior to the start of demolition/abatement will remain the property of the Owner. The following items are to be removed by the Owner prior to abatement procedures:

Select plumbing fixtures, light fixtures, and laundry equipment.
DISPOSITION OF REMOVED ITEMS:

Items identified to be removed and not indicated to be reused shall become the property of the Contractor unless otherwise identified by the Owner for reuse.

The Contractor does not have salvage rights to any and all building systems or materials and items shall remain for salvage by the Owner/Owner’s General Contractor. The Contractor shall be responsible to reimburse the Owner for salvage income expected to be received by the Owner/General Contractor.

PART 3 - EXECUTION

INSPECTION:

Prior to commencement of selective demolition work, inspect all areas in which Work will be performed. Photograph and document existing conditions of structure, surfaces, and equipment or of surrounding properties which could be misconstrued as damage resulting from selective demolition work. Submit copies of photographs to Owner’s Representative prior to starting Work. Verify the working condition of all systems within the work area. Document all working and non-working systems and components.

PREPARATION:

Competent Person: Work of this Section is to be supervised by an OSHA Competent Person as described in Section 01043 Project Coordination.

Work Site Isolation: Isolate the site of selective demolition work from occupied portions of the building prior to start of demolition activities. Work site isolation includes:

- Erection of Critical Barriers as described in Section 01526 Temporary Enclosures
- Installation and operation of Pressure Differential and Ventilation System as described in Section 01513

Decontamination Unit: Prior to beginning Work of this Section complete installation of a Personnel Decontamination Unit as described in Section 01563 Decontamination Units.

Disposal of PCB Suspect Ballasts and Fluorescent Tubes:

PCB Suspect Light Ballasts - Package light ballasts suspected of containing Polychlorinated Biphenyls (PCB’s) according to, but not limited to, 40 CFR 761.65. Provide logs as to the number of PCB ballasts packaged for disposal. All disposal coordination and costs shall be the responsibility of the Contractor.

Fluorescent Tubes with Mercury Vapor Contamination - Package fluorescent light tubes with mercury vapor according to all applicable Federal, State, and local regulations. Provide logs as
to the number of bulbs packaged for disposal. All disposal coordination and costs shall be the responsibility of the Contractor.

Collection of Regulated Building Materials - Place in secure packaging to prevent breakage. Provide soft packing material to prevent damage during packaging, handling, and transport. All disposal costs shall be the responsibility of the Contractor and shall follow all applicable Federal, State, and local regulations. The Contactor shall refer to the RBM removal schedule listed in section 01013 and be responsible to remove and dispose of all items.

CLEAN-UP AND REPAIR:

Cleaning: The Contractor shall at all times during the demolition keep the premises free from accumulations of waste material or rubbish caused by his employees or work. At the completion of the work, the Contractor shall remove rubbish, tools, and demolished materials from site.

Upon completion of demolition work, remove tools, equipment and demolished materials from site.

In areas where asbestos abatement work is to occur, leave protection in place as required by abatement work. Additional cleaning as required for abatement work is not in Work of this Section. Pre-clean area as per Section 01526, Temporary Enclosures.

HVAC Demolition/Repair:

Remove only HVAC equipment, ductwork, diffusers, etc. specifically identified for demolition.

Immediately report to Owner’s Representative any pneumatic lines, HVAC controls, thermostats, conduits, etc. that are cut or damaged. Crimp and seal any pneumatic lines to maintain system pressure. The Abatement Contractor shall repair the damaged lines at no cost to the Owner. The Owner or Owner’s Representative reserves the right to solicit other contractors to perform repair work, at the cost of the Abatement Contractor.

Electrical Demolition/Repair:

Work requiring the disconnect of light fixtures, speakers, fire alarm devices, security sensors, clocks or bells shall be performed with the circuit de-energized or by de-energizing the appropriate equipment.

Wiring (including grounds) scheduled for demolition from a junction box that supplies a device or flexible conduit shall be disconnected at the junction box and capped off with appropriately sized wire nuts.

Wiring to be cut shall be traced out before cutting and identified on both ends with a number tag.

Support all loose or unsupported conduits within the Work Area to ensure electrical safety.
Identify poorly supported conduit to Owner’s Representative. The Owner will be responsible to permanently support conduit following abatement unless otherwise specified.

Electrical work shall be performed by an electrician trained and licensed to perform such work in the State of Colorado and installed according to National Electric Code. Electrical components, including data and other low voltage wiring, found not to be in working order (and not previously identified) shall be repaired at no cost to the Owner.

Telephone/Data and Other Low-Voltage Wiring

Protect in place all low voltage wiring. Low voltage wiring found to be poorly supported shall be decontaminated as part of the Work and supported/suspended above work surfaces.

The Owner or Owner’s Representative reserves the right to solicit other contractors to perform repair work, at the cost of the Abatement Contractor.

END OF SECTION 02062
SECTION 02081 - REMOVAL OF ASBESTOS-CONTAINING MATERIALS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions, Supplementary General Conditions, and other Division - 1 Specification Sections, apply to Work of this Section.

RELATED WORK SPECIFIED ELSEWHERE:

Installation of Critical and Primary Barriers, and Work Area Isolation Procedures are set forth in Section 01526 Temporary Enclosures.

Construction of Secondary Enclosure or Full Enclosure as set forth in Section 01526 Temporary Enclosures.

Project Decontamination procedures are specified in Section 01711 Project Decontamination.

Disposal of asbestos-containing waste is specified in Section 02084 Disposal of Asbestos Containing Waste Material.

SUBMITTALS:

Before Start of Work: Submit the following to the Owner's Representative for review. Do not start Work until these submittals are reviewed by the Owner's Representative.

Surfactant: Submit product data, material data safety sheet, use instructions and recommendations from manufacturer of surfactant intended for use.

Removal Encapsulant: Submit product data, material data safety sheet, use instructions and recommendations from manufacturer of removal encapsulant intended for use.

Material Safety Data Sheet: Submit Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910,1200) for each material proposed for use.

Glovebags: Submit product data.

PART 2 - PRODUCTS

Wetting Materials: For wetting prior to disturbance of Asbestos Containing Materials use either amended water or a removal encapsulant:

Amended Water: Provide water to which a surfactant has been added.

REMOVAL OF ASBESTOS-CONTAINING WASTE MATERIALS
Removal Encapsulant: Provide a penetrating type encapsulant designed specifically for removal of Asbestos Containing Material.

Mastic Removal Solvents: The following are approved solvents for the removal of floor tile mastic:

- Grayling Industries Control Green Low Odor Mastic Remover

Airless sprayer: Provide an airless sprayer for the application of amended water or removal encapsulants. A water hose and nozzle may not be substituted for an airless sprayer. The airless sprayer shall not be utilized as a cleaning device.

Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 6 mil thick, clear, frosted, or black as required by conditions.

Duct Tape: Provide duct tape in 2” or 3” widths.

Spray Cement is not to be used on existing wall finishes.

Disposal Bags: Provide 6 mil thick leak-tight polyethylene bags labeled as required by Section 02084 Disposal of Asbestos Containing Waste Material.

Glovebag: Provide minimum 6 mil polyethylene, polyvinylchloride or equivalent plastic sack, with two sealed inward projecting longsleeve gloves or mittens, pre-printed with same warning notice as a disposal bag.

Amended Water Sprayer: Provide a hand pump type pressure-can water sprayer for use with glovebag removal.

PART 3 - EXECUTION

DROP CLOTH: Over the two (2) sheets of the Primary Barrier on floors, install as a drop cloth a clear 6 mil sheet plastic in all areas where asbestos removal work is to be carried out.

Install Drop Cloth at the beginning of each work shift. Install only sufficient plastic for Work of that shift.

Remove Drop Cloth at end of each Work shift or as Work in an area is completed. Fold plastic toward center of sheet and pack in disposal bags. Keep material on sheet continuously wet until bagged.

WORKER PROTECTION:

Require that appropriate protective equipment be used at all times. Worker Protection is described in Sections 01560 and 01562 of this Specification.
WET REMOVAL:

Thoroughly wet to satisfaction of Owner’s Representative Asbestos Containing Materials to be removed prior to stripping to reduce fiber dispersal into the air. Accomplish wetting by a fine spray (mist) of amended water or removal encapsulant. Saturate material sufficiently to wet throughout without causing excess dripping. Allow time for amended water or removal encapsulant to penetrate material thoroughly.

Mist Work Area continuously with amended water to reduce airborne fiber levels.

Remove saturated Asbestos Containing Material in small sections from all areas. Do not allow materials to dry out. As it is removed, simultaneously pack material while still wet into disposal bags, gooseneck bags, and seal with minimum three wraps of duct tape. Clean outside and move to Wash Down Station adjacent to Material Decontamination Unit.

Floor Tile/Carpet and Mastic in Modified Full Containment (When Using Mechanical Buffer):

Construct a modified full containment with the following: wall splash guards to 4 feet above floor, three-stage decontamination unit, and 2-stage waste load out. Establish pressure differential of −0.025 inches of water at all times.

Wet and remove carpet, if applicable, and dispose of as asbestos contaminated waste material. The Contractor, with approval of the Owner’s Representative, may dispose of carpet as non-asbestos contaminated waste if the floor tile is left substantially intact during carpet removal.

Wet floor tile with amended water or removal encapsulant.

Loosen floor tiles with a spade or other appropriate tools or methods. Remove tiles with minimal breakage.

Remove cove base, if applicable, and dispose of as asbestos contaminated waste material.

Remove mastic to bare concrete using hand scrapers and solvents approved within this Section. Contractor shall remove all fillers, and all mastics to clean concrete substrate.

Mastic shall not be allowed to dry-out before packaging.

Contractor shall remove all residual mastic solvent with appropriate solvent wash. A floor tile buffer may be used for removing mastic since a 4 foot high 6 mil layer of polyethylene sheeting will be placed at the base of the walls in all affected areas. Buffer shall be a low speed floor machine that spins no greater than 175 revolutions per minute.

Mechanical chippers and/or grinding are not approved methods for floor tile and mastic removal.
The Contractor shall be responsible for restoring the existing substrate to acceptable condition to accept new floor finishes if damaged due to abatement operations.

The Contractor shall be responsible for conducting final wash procedures, per the manufacturer’s recommendations.

The Contractor may use a "Starfire Bit", "Scrape Away Blade", or similar buffer plate attachment for the removal of mastic from concrete substrate while under full containment conditions only.

**Sheet Vinyl Flooring Removal:**

Construct a Full Enclosure as described in Section 01526.

Wet and remove carpet, if applicable, and dispose of as asbestos contaminated waste material. The Contractor, with approval of the Owner’s Representative, may dispose of carpet as non-asbestos contaminated waste if the sheet vinyl is left substantially intact during carpet removal.

Wet sheet vinyl with amended water or removal encapsulant.

Loosen flooring with a spade or other appropriate tools or methods. Remove sheet vinyl with minimal tearing. Score sheet vinyl with razor knife to minimize tearing.

Remove covebase, if applicable, and dispose of as asbestos contaminated waste material.

Remove backing and mastic to bare concrete using hand scrapers and solvents approved within this Section.

The Contractor shall be responsible for restoring the existing substrate to acceptable condition to accept new floor finishes if damaged due to abatement operations.

The Contractor may use a "Starfire Bit", "Scrape Away Blade", or similar buffer plate attachment for the removal of backing and mastic from concrete substrate.

**Drywall and Framing Abatement:**

Construct a full enclosure as described in Section 01526. If drywall to be removed only contains ACM joint compound (OSHA regulated), removal may be conducted in a Secondary Enclosure.

Remove drywall and framing according to the following procedures:

Thoroughly wet the material with a fine mist of amended water or removal encapsulant. Allow adequate time for amended water or removal encapsulant to saturate material to the substrate.
Remove/demolish all escutcheons, grilles, trim, and skylights from the Work Area as identified.

Remove drywall in manageable quantities and control the descent to the staging or the floor below. Immediately bag up debris.

Remove framing/hat channel and dispose of as asbestos contaminated debris.

**Block and Concrete Filler or Texture**

Construct a Full Enclosure according to Section 01526 Temporary Enclosures.

Remove block filler and concrete texture according to the following methods:

- Remove all items mounted to wall systems prior to removal
- Thoroughly wet the material with a fine mist of amended water or removal encapsulant. Allow adequate time for amended water or removal encapsulant to saturate material to the substrate.
- Remove materials in manageable quantities and control the descent to the staging or the floor below. Immediately bag up debris. Material shall be removed in all pits, cracks, and crevices and shall include the removal of all primers, paints, patching, skim coats, adhesives, fillers, joint compounds to a clean substrate.
- Clean all surfaces in the Work Area using disposable cloths wetted with water which has surfactant or removal encapsulant added. When these surfaces have dried, clean with a HEPA filtered vacuum. Remove residue remaining on substrate.
- Pressure washing is not permitted. Use of airless sprayers, other than for application of amended water and misting work area, is prohibited.

**Thermal System Insulation and Other Miscellaneous Materials Abatement:**

**Pipe Insulation:**

Construct a Full Enclosure according to Section 01526 Temporary Enclosures.

- Spray with a mist of amended water or removal encapsulant. Allow amended water or removal encapsulant to saturate material to substrate.
- Cut bands holding preformed pipe insulation, slit jackets at seams, remove and hand place in a disposal bag.
Remove job-molded fitting insulation in chunks and hand place in a disposal bag. Do not drop to floor.

Remove any residue on pipe or fitting with stiff bristle nylon hand brush.

Remove non-ACM insulation on straight runs 6” from the point where it contacts the asbestos-containing insulation. Cover exposed end of remaining insulation with lag cloth and/or non-ACM insulation coating.

**Pipe Insulation - GLOVEBAG Removal:**

Construct a Secondary Enclosure according to Section 01526 Temporary Enclosures.

Remove asbestos containing material inside a glovebag according to the following procedure:

Place one layer of duct tape around undamaged pipe at each end where the glovebag will be attached.

Slit top of the glovebag open (if necessary) and cut down the sides to accommodate the size of the pipe (about two inches longer than the pipe diameter).

Place a strip of duct tape along the bottom seam of the glovebag.

Place necessary tools into pouch located inside glovebag.

Place one strip of duct tape along the edge of the open top slit of glovebag for reinforcement.

Place the glovebag around section of pipe to be worked on and staple top together through reinforcing duct tape. Place duct tape over reinforcing seam after stapling.

Duct tape the ends of glovebag to pipe itself, where previously covered with plastic or duct tape.

Insert wand from garden sprayer through water sleeve. Duct tape water sleeve tightly around the wand to prevent leakage.

Make small slit and insert the HEPA vacuum nozzle into the glovebag. Duct tape the slit and nozzle to prevent leakage.

Thoroughly wet material to be worked on with amended water or removal encapsulant and allow to soak in. Wet adequately to penetrate and soak material through to substrate.

Use bone saw, if required, to cut insulation at each end of the section to be removed. Throughout this process, spray amended water or removal encapsulant on the cutting area to keep dust to a minimum.
Remove insulation using putty knives or other tools. Place pieces in bottom of bag without dropping.

Using scrub brush, rags and water, scrub and wipe down the exposed pipe.

Turn on the vacuum only briefly to collapse the bag.

Remove the water wand and vacuum nozzle, twist water sleeve closed and seal all holes with duct tape.
With removed insulation in the bottom of the bag, twist the bag several times and tape it to keep the material in the bottom during removal of the glovebag from the pipe.

Visually inspect the pipe and glovebag with Owner's Representative. If any dust, debris, residue, or other matter is found, untwist glovebag and repeat cleaning.

Slip a 6 mil disposal bag over the glovebag (still attached to the pipe). Remove tape or cut bag and open the top of the glovebag and fold it down into disposal bag.

Clean all surfaces in the Work Area using disposable cloths wetted with amended water. When these surfaces have dried, clean with a HEPA filtered vacuum and seal exposed edges of pipe insulation.

**Transite Panel Removal:**

Construct a Secondary Enclosure according to Section 01526 Temporary Enclosures.

If the transite panels can be removed substantially intact, the Contractor may substitute a regulated area with drop cloth for secondary enclosure requirements.

Adequately wet the surface areas of the transite to prevent dust emissions throughout the removal process.

Demolish trim using hand methods.

Remove the transite using hand removal methods. No cutting or grinding of the transite is allowed.

Remove the material carefully with minimal breakage and disturbance. Carefully place material into disposal bag.

Seal material in two layers of 6 mil polyethylene disposal bags or sheeting.

Dispose of transite according to Section 02084 Disposal of Asbestos Containing Waste Material.
END OF SECTION 02081
SECTION 02083 - DIRECT WASTE LOAD OUT OF ASBESTOS-CONTAINING WASTE MATERIALS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions, Supplementary General Conditions, and other Division - 1 Specification Sections, apply to Work of this Section.

RELATED WORK SPECIFIED ELSEWHERE:

Installation of negative pressure differential system as described in Section 01513 Temporary Pressure Differential and Air Circulation System.

Construction of Critical and Primary Barriers, and Work Area Isolation as set forth in Section 01526 Temporary Enclosures.

Project Decontamination procedures are specified in Section 01711 - Project Decontamination.

Disposal of asbestos-containing waste is specified in Section 02084 - Disposal of Asbestos Containing Waste Material.

SUBMITTALS:

Before Start of Work: Submit the following to the Owner's Representative for review. Do not start Work until these submittals are reviewed by the Owner's Representative.

- Drawing showing the location, size, and placement of the transfer chamber and waste trailer in relation to the Work Area.
- Product data identifying the dimensions and construction of the waste trailer bag.

PART 2 - PRODUCTS

Waste Trailer Bags: Provide a pre-manufactured waste disposal bag specifically designed for use in direct waste load out. The bag shall be approximately 29' long x 7' tall x 7' wide and open on one end only. Support loops shall be integrated into the bag on minimum 4' centers along the top of the bag. The bag will be constructed of seamless polyethylene sheeting; taped polyethylene will not be permitted. The bag will be constructed as follows:

- Outer Bag - constructed of 3 ounce un-coated woven polypropylene
- Primary Bag - 6-mil thick sheet polyethylene film
- Secondary Bag - 6-mil thick sheet polyethylene film
Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 6 mil thick, clear, frosted, or black as required by job conditions.

Duct Tape: Provide duct tape in 2" or 3" widths.

Plywood: Provide full sheets of ½" thick CDX plywood in good condition for the construction of the transfer chamber.

Framing: Provide 2"x 4" wood framing member for the construction of the transfer chamber.

Flooring Protection: Provide new sheets of cardboard or Masonite sheeting in the largest size possible to protect the sheet polyethylene floor in the transfer chamber and waste trailer bag.

Rope: Provide solid braid nylon rope minimum 1/4" diameter with a minimum tensile strength of 1,250 lbs.

Waste Trailer: Provide a clean enclosed roll-off type waste trailer sized to accommodate the waste trailer bag described above.

Steel Strapping: Provide minimum 5/8" x .017" cold-rolled, medium carbon steel strapping with a break strength of 1,630 lbs for sealing the ends of the waste trailer bags when full. Use seals, sealing tools, and strapping tensioner compatible with the specified steel strapping.

Airless sprayer: Provide an airless sprayer for the application of amended water or removal encapsulants. A water hose and nozzle may not be substituted for an airless sprayer.

PART 3 - EXECUTION

TRANSFER CHAMBER:

Provide a transfer chamber to directly connect the waste trailer and Work Area. The transfer chamber shall be a minimum of 6' long x 6'8" wide x 6'8" tall. The opening of the transfer chamber shall not exceed the dimensions of the opening of the waste trailer bag.

Construct the transfer chamber of 2"x 4" wood framing and ½" thick plywood sheeting. Construct the chamber weather tight and in a manner that maintains building security independent of the waste trailer. Install hinged doors that will swing 180 degrees to close the opening at the connection point with the waste trailer during separation.

Notify the Owner’s Representative when Transfer Chamber is constructed and Enclosure Barriers are to be installed. Install Enclosure Barriers only in the presence of the Owner’s Representative.

Install critical, primary, and secondary barriers in the transfer chamber as described in Section 01526 Temporary Enclosures, Full Enclosure.
At opening of transfer chamber and Work Area install a flapped doorway consisting of two (2) layers of alternating polyethylene sheets. This flapped doorway may be taped open during periods of active waste load out.

At opening of transfer chamber and Waste trailer, install 2 layers of sheet poly. These poly barriers are to be rolled up at all times except for periods when the waste trailer is separated from the transfer chamber. Refer to the Separation and Tie-In Sequences in this Section for Details.

At the floor opening of the transfer chamber at the waste trailer install a threshold constructed from 2"x 4" wood framing.

Protect the polyethylene floor sheeting in the transfer chamber during load out operations with cardboard/masonite.

**WASTE TRAILER and WASTE TRAILER BAG:**

Erect 6-mil polyethylene sheeting in the waste trailer prior to installing waste trailer bag.

Attach rope through closed end of dumpster and run through loops in waste trailer bag. Pull rope tight to support waste trailer bag and tie off to the transfer chamber.

Install masonite/cardboard sheeting on the floor of the waste trailer bag to protect during waste load out.

**WASTE TRAILER BAG TO TRANSFER CHAMBER TIE-IN PROCEDURE:**

Notify the Owner's Representative when Transfer Chamber Tie-In Procedure is to be conducted. Conduct Tie-In sequence only in the presence of the Owner's Representative.

Open hinged doors to transfer chamber and direct waste trailer driver to backup and deposit the opening of the waste trailer to within 2' of the opening of the transfer chamber.

From the outside attach the 3-ounce un-coated woven polypropylene outer bag to the opening of the transfer chamber. Secure using staples and duct tape.

Enter the Work Area and proceed into the transfer chamber. Roll-up and secure the two (2) layer, 6-mil curtain at the opening of the transfer chamber/waste trailer. When complete, the curtain should be rolled up between the outer bag and primary bag of the waste trailer bag.

Attach the primary bag to the primary layer of polyethylene sheeting in the transfer chamber with a minimum overlap of 12". Seal this joint with spray glue and duct tape. Install layers so that the primary bag is the innermost layer in the transfer chamber.

Attach the secondary bag to the secondary layer of polyethylene sheeting in the transfer chamber with a minimum overlap of 12". Seal this joint with spray glue and duct tape. Install layers so that the secondary bag is the innermost layer in the transfer chamber.

**DIRECT WASTE LOAD OUT OF ASBESTOS-CONTAINING WASTE MATERIALS**

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Install a plywood ramp to bridge the opening between the transfer chamber and the waste trailer. Use caution to not damage the poly sheeting and immediately repair any damage.

**WASTE HANDLING PROCEDURES:**

Remove asbestos containing material according to Section 02081 - Removal of Asbestos Containing Materials.

In lieu of immediately bagging the material as described in Section 02081, the Contractor shall immediately place the material into a cart, wheelbarrow, or similar, and transport to the waste trailer bag via the transfer chamber.

Deposit the material into the waste trailer bag. At all times the debris in the waste trailer bag shall be maintained adequately wet.

Continue the process until the waste trailer bag is full, and then proceed with Waste Trailer Separation as described below.

**WASTE TRAILER SEPARATION PROCEDURES:**

Notify the Owner's Representative when Separation Procedure is to be conducted. Conduct Separation Sequence only in the presence of the Owner's Representative.

Close flapped doorway between Work Area and Transfer Chamber.

Remove plywood ramp, cardboard sheeting, and all gross debris from the transfer chamber.

Confirm that the debris in the waste trailer bag is adequately wet and continuously mist the air in the transfer chamber during the separation sequence.

Wet wipe and HEPA vacuum all debris from the secondary layer of the transfer chamber.

Remove the secondary bag from the transfer chamber, wrap and seal using the metal strapping. Seal with duct tape and fold the secondary bag into the waste trailer.

Remove the secondary barrier layer from the transfer chamber and pass back into the Work Area through the flapped doorway.

Wet wipe and HEPA vacuum all debris from the primary layer of the transfer chamber.

Remove the primary bag from the transfer chamber, wrap and seal using the metal strapping. Seal with duct tape and fold the primary bag into the waste trailer.

Unroll the two (2)-layer 6-mil curtain and seal to the opening of the transfer chamber.

From outside the Work Area, open the plywood hinged doors of the transfer chamber and disconnect the outer bag from the transfer chamber, wrap and seal using the metal strapping.
Seal with duct tape and fold the outer bag into the waste trailer.

Label the outside bag with the four labels identified in Part 2 of Section 02084 - Disposal of Asbestos Containing Waste Materials.

Remove the rope supporting the bag from the transfer chamber and from within the waste trailer.

Attach the waste trailer to the waste hauler’s truck and carefully pull away from the transfer chamber and building.

Close the plywood doors to the transfer chamber and lock until beginning a new tie-in sequence.

The transfer chamber shall be final cleaned, visually inspected, and cleared as part of the final decontamination sequence identified in Section 01711 - Project Decontamination.

END OF SECTION 02083
SECTION 02084 - DISPOSAL OF ASBESTOS-CONTAINING WASTE MATERIAL

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions, Supplementary General Conditions, and other Division-1 Specification Sections, apply to Work of this Section.

Section 01092 Codes and Regulations - Asbestos Abatement describes applicable Federal, State and local regulations.

DESCRIPTION OF THE WORK:

This Section describes the disposal of Asbestos Containing/ Contaminated Waste Materials. Disposal includes packaging of asbestos containing waste materials. Disposal is to be accomplished by land filling.

PART 2 - PRODUCTS

Disposal Bags: Provide 6 mil thick leak-tight polyethylene bags labeled with four labels with text as follows:
First Label:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID OPENING OR BREAKING CONTAINER
BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH

Second Label: Provide in accordance with 29 CFR 1910.1200(f) of the OSHA Hazard Communication Standard:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
BREATHING AIRBORNE ASBESTOS, TREMOLITE, ANTHOPHYLLITE, OR ACTINOLITE FIBERS IS HAZARDOUS TO YOUR HEALTH

RQ HAZARDOUS
SUBSTANCE,
SOLID, NOS,
CLASS 9
(ASBESTOS)

Fourth Label: Provide the name of the Owner, building location, name of the Contractor and sequential number for each disposal bag. This label must be pre-printed.

PART 3 - EXECUTION

GENERAL:

Load all asbestos containing waste material in two (2) 6 mil plastic disposal bags and leak-tight drums. Drums are not required if the landfill will accept other forms of containers.

Place in a third 6-mil plastic disposal bag any bags with breaches, cuts, or tears.

Do not store containerized materials outside of the Work Area. Take containers from the Work Area directly to a sealed truck or dumpster.

Asbestos containing waste material to be moved distances greater than 50 feet (from waste loadout to dumpster/sealed truck) shall be transported in a covered cart.

All waste loadout Work, as detailed in Sections 01563 and 02084, shall be performed in the presence of the Owner’s Representative during approved working hours.

END OF SECTION 02084
SECTION 09805 - ENCAPSULATION OF ABATED SURFACES

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions, Supplementary General Conditions, and other Division - 1 Specification Sections, apply to Work of this Section.

DESCRIPTION OF WORK:

The Extent of encapsulation work is shown on the drawings and as herein specified.

The Work includes the sealing of floor, wall, and ceiling system structural materials that have been in contact with or near asbestos containing materials, and cannot be removed for structural or other reasons; with one (1) coat of penetrating encapsulant.

SUBMITTALS:

Product Data: Submit manufacturer's technical information including label analysis, material data safety sheet, and application instructions for each material proposed for use.

JOB CONDITIONS:

Apply encapsulating materials only when environmental conditions in the Work Area are as required by the manufacturer's instructions.

PART 2 - PRODUCTS

Lockdown Encapsulants: Provide encapsulants specifically designed for application as lockdown after asbestos abatement. Approved products include Fiberlock Fiberset PM (7475 Clear), or approved equal. Use color tinted encapsulant if required.

Penetrating Encapsulants: Provide encapsulants specifically designed for application to remaining asbestos containing materials after asbestos abatement. Approved products include Fiberlock A-B-C Asbestos Binding Compound (6422 Clear), or approved equal. Use color tinted encapsulant if required. Use in accordance with manufacturer's directions, in water-diluted form, to achieve penetrant qualities of product.

Bridging Encapsulants: Provide encapsulants specifically designed for application to remaining asbestos containing materials after asbestos abatement. Approved products include Fiberlock A-B-C Asbestos Binding Compound (6422 Clear), or approved equal. Use color tinted encapsulant if required. Use in accordance with manufacturer’s directions, in undiluted form, to achieve bridging qualities of product.

Fosters F-100 is prohibited without written approval from the Owner's Representative.
PART 3 - EXECUTION

GENERAL:

Do Not Commence Application of encapsulating materials until all removal work within the Work Area has been completed, and Certificate of Final Visual Inspection has been signed.

WORKER PROTECTION:

Before beginning Work with any material for which a Material Safety Data Sheet has been submitted provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times.

Before Start of Encapsulation:

Prior to applying encapsulant the project decontamination process must be complete through the Visual Inspection and the Certification of Final Visual Inspection. The following will be in place during encapsulation:

- Primary layer of polyethylene
- Decontamination unit fully operational
- Pressure differential system running continually

Prepare the airless sprayer equipment and encapsulant. Use the exhaust from a clean one horsepower leaf blower to sweep all surfaces in the Work Area. Do not direct forced air equipment at any seal or critical barrier. Apply the encapsulant to all Work Area surfaces according to the manufacturer's instructions.

Wait at least thirty (30) minutes and then sweep the area with the exhaust from the leaf blower a second time.

Apply encapsulant with an airless spray gun pressure and nozzle orifice as recommended by the encapsulant manufacturer.

END OF SECTION 09805
GENERAL NOTES

1. THE BID DOCUMENTS, SPECIFICATIONS, DRAWINGS, PHASE I AND PHASE II SCHEDULES,ベストプラスナート, AND OTHER DATA INCLUDED IN THIS BID PACKAGE ARE ISSUED FOR THE PURPOSE OF PROVIDING AN OVERVIEW OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE WORK PERFORMED IS IN ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS, PHASE I AND PHASE II SCHEDULES, BESTプラスナート, AND OTHER DATA INCLUDED IN THIS BID PACKAGE.

2. PHASE I SCHEDULE IS FOR THE PROJECT WORK TO BE COMPLETED IN THE FIRST PHASE OF THE WORK.

3. PHASE II SCHEDULE IS FOR THE PROJECT WORK TO BE COMPLETED IN THE SECOND PHASE OF THE WORK.

4. ALL WORK PERFORMED MUST BE IN ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS, PHASE I AND PHASE II SCHEDULES, BESTプラスナート, AND OTHER DATA INCLUDED IN THIS BID PACKAGE.

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